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Hudson-Fulton celebration

Hudson-Fulton Celebration Commission,
George Frederick Kunz

KF10136

Boston Society of Natural History.

FROM

Mr. G. F. Kunz.

Received May 19, 1911.

**Hudson-Fulton
Celebration
1909**

Hudson-Fulton Celebration

A Collection of the Catalogues issued by the Museums and Institutions in New York City and Vicinity. Shown under the Auspices of the Hudson-Fulton Celebration Commission, describing the Special Collections of Plants, Animals, Archæological Objects, Furniture, Maps, Silver, Letters, Paintings and Objects of Artistic and Historical Interest in Connection with the Hudson and Fulton Periods.

George Frederick Kunz
Chairman Scientific and Historical Museum Exhibits

Hudson-Fulton Celebration Commission
Tribune Building, New York

1910
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KF10136



The Trow Press
New York

Contents

List of Museums, Institutions and Societies which have prepared Free Exhibitions relating to Henry Hudson, Robert Fulton, and the History of Steam Navigation. Paintings, Objects of Art, Archæological Specimens, and other things relating to the three centuries of New York's history, the Discovery of the Hudson River, and the Introduction of Steam Navigation. Plants, Fish and Animals indigenous to the Hudson River Valley, prepared by the Committee on Science, History and Art of the Hudson-Fulton Celebration Commission, New York, 1909. . . . 16 pages.

The Hudson-Fulton Celebration of 1909. A reprint of an illustrated article by George Frederick Kunz in the Popular Science Monthly of October, 1909. 26 pages.

The Indians of Manhattan Island and Vicinity, by Alanson Skinner, Department of Anthropology. A guide to the Hudson-Fulton Exhibit at the American Museum

Contents—*Continued*

of Natural History. No. 29 of the Guide Leaflet Series of the American Museum of Natural History. Edmund Otis Hovey, Editor, New York. Published by the Museum, September, 1909. . . . 60 pages.

The New York Botanical Garden, Bronx Park. Descriptive Guide to the Grounds, Buildings and Collections. Native Trees of the Hudson River Valley. Reprinted from the Bulletin of the New York Botanical Garden No. 23, with an index added. New York, September, 1909. 166 pages.

Museums of the Brooklyn Institute of Arts and Sciences. Frederick A. Lucas, D.Sc., Curator-in-Chief. Catalogue of the Historical Collection and Objects of Related Interest at the Children's Museum. Anna B. Gallup, B.A., Curator. Hudson-Fulton Celebration Number. Prepared by Agnes E. Bowen. For list of Officers and Institutions, Hudson-Fulton Celebration, see last four pages. 90 pages.

Museum Bulletin of the Staten Island Association of Arts and Sciences. Edited for the Publication Com-

Contents—*Continued*

mittee by Charles Louis Pollard, Curator-in-Chief.
No. 14. Published monthly at New Brighton, N. Y.
September, 1909. The Hudson-Fulton Exhibit in
the Museum. 1 page.

A Catalogue of Books, Maps, etc., relating to Henry
Hudson, Robert Fulton and Their Times. Exhibited
by the American Geographical Society, at its house,
No. 15 West 81st Street, New York, at the Request
of the Hudson-Fulton Commission, September 25
to October 10, 1909. New York, 1909. 48 pages.

Official Robert Fulton Exhibition of the Hudson-Fulton
Commission, The New York Historical Society in
Cooperation with the Colonial Dames of America.
September 27 to October 30, 1909. . . 70 pages.
Catalogue Van Cortlandt House Museum for the Hud-
son-Fulton Celebration, September, 1909. 64 pages.

List of Prints, Books, Manuscripts, etc., relating to
Henry Hudson, the Hudson River, Robert Fulton
and Steam Navigation. Exhibited in the Lenox
Branch, New York Public Library, on the occasion

Contents—*Continued*

- of the Hudson-Fulton Celebration, September, 1909.
New York, 1909. 86 pages.
- Exhibition of the New York Genealogical and Biographical Society in official connection with the Hudson-Fulton Celebration, September 25 to October 9, 1909. 20 pages.
- Hudson-Fulton Celebration Number, Zoological Society Bulletin. Published by the Hudson-Fulton Celebration Commission in Cooperation with the New York Zoological Society. September, 1909, No. 35. The Wild Animals of Hudson's Day, by William T. Hornaday, Director of the New York Zoological Park. 52 pages.

lution. Here, as in the other old houses of Colonial times, the atmosphere of the past exercises its subtle charm, and helped to conjure up a picture of the home life of long ago.

The various exhibitions aroused in the minds of the beholders a more lively understanding of the history and development of our city, and while delighting the eye, conveyed an important lesson in the very best and most effective way — that is, unconsciously. A population like ours is greatly in need of some powerful stimulation of this kind to weld together all of its heterogenous elements.

Following is a summary of special Hudson-Fulton exhibitions in the City of New York:

INSTITUTIONS	Dates	Square feet	Attend- ance
American Geographical Society.....	About 30 days...	1,572	1,000
American Museum of Natural History.....	Sept. 15-Oct. 15..	450	73,714
American Society Mechanical Engineers.....	Sept. 15-Oct. 15..	700	500
Brooklyn Institute Arts and Sciences.....	Sept. and Oct...	2,000	50,000
Brooklyn Institute, Children's Museum.....	Sept. 1-Dec. 15..	150	20,000
City History Club.....	October.....	300	160
College of the City of New York.....	Sept. 25-Oct. 9..	250	2,000
Fraunces' Tavern.....	2 or 3 weeks.....	200	2,500
Long Island Historical Society.....	3 months.....	40	50
Metropolitan Museum of Art.....	Sept. 30-Nov. 30..	9,070	300,775
National Arts Club.....	6 months.....	3,900	10,000
New York Aquarium.....	Sept. 26-Oct. 9..	10,000	369,887
New York Botanical Garden.....	Sept. 1-Dec. 15..	50 acres	150,000
New York Genealogical and Biographical Society.....	Sept. 30-Nov. 1..	1,000	300
New York Historical Society.....	Sept. 27-Oct. 30..	3,000	2,036
New York Public Library, Lenox Branch.....	Sept., Oct., Nov..	3,612	5,000
New York Zoological Park.....	Sept. 25-Oct. 9..	50 acres	76,036
Reformed Protestant Dutch Church.....	6 days.....	200	1,000
Staten Island Association Arts and Sciences.....	Sept. 4-Nov. 1...	1,875	1,511
Van Cortlandt House.....	June-Nov.....	3,000	*5,000
Washington's Headquarters.....	October.....	3,200	3,600
		†44,519	1,075,069

* 3,000 in one day, nearly 300,000 for the year.

† Not including Botanical Garden and Zoological Park.

HUDSON-FULTON CELEBRATION

1909

List of the Museums, Institutions and Societies which have prepared Free Exhibitions relating to Henry Hudson, Robert Fulton and the History of Steam Navigation. Paintings, objects of art, archaeological specimens, and other things relating to the three centuries of New York's history; the discovery of the Hudson River, and the introduction of steam navigation. Plants, fish and animals indigenous to the Hudson River Valley

PREPARED BY THE
COMMITTEE ON SCIENCE, HISTORY AND ART
OF THE
HUDSON-FULTON CELEBRATION COMMISSION
NEW YORK, 1909

The Hudson-Fulton Celebration Commission

Appointed by the Governor of the State of New York and the
Mayor of the City of New York and chartered by Chap-
ter 325, Laws of the State of New York, 1906

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Telephones: BEEKMAN 3097 and 3098

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**List of Institutions holding Free Exhibitions under the auspices
of or in coöperation with the Scientific, Historical and
Art Committees of the Hudson-Fulton
Celebration Commission**

AMERICAN MUSEUM OF NATURAL HISTORY, Seventy-seventh Street, from Columbus Avenue to Central Park West. Open daily, except Sundays, from 9 a.m. to 5 p.m.; Sundays from 1 to 5 p.m. Always free. **Special Exhibition during the Hudson-Fulton Celebration, from September 1st to December 1st.** Original objects showing the life and habits of the Indians of Manhattan Island and the Hudson River Valley. (Special illustrated guide for sale; price, 10 cents.)

Take Sixth or Ninth Avenue Elevated Railway to Eighty-first Street, or Subway to Seventy-ninth Street; also reached by all surface cars running through Columbus Avenue or Central Park West.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS, Engineering Building, 29 West Thirty-ninth Street. **Robert Fulton Exhibition** consists of paintings, drawings, books, decorations and furniture, and working models of John Fitch's steamboat, the first boat operated and propelled by steam, Robert Fulton's "Clermont," the first successful application of steam to navigation, and John Stevens's "Phoenix," the first steamboat to sail on the ocean.

The exhibition will be shown in the Council Room of the Society, on the eleventh floor, and will be open from 9.00 a.m. until 5.30 p.m. during the entire period of the Hudson-Fulton Celebration, and from 9.00 a.m. until 5.00 p.m. daily until December 6th.

BROOKLYN INSTITUTE, Eastern Parkway. Open daily, except Sundays, from 9 a.m. to 6 p.m.; Sundays from 2 to 6 p.m.; Thursday evenings from 7.30 to 9.30 p.m. Free except on Mondays and Tuesdays, when admission fee is charged of 25 cents for adults and 10 cents for children under six years of age. Collections illustrating various departments of Archæology, Mineralogy and Ethnography. **Special Exhibition relating to past and present life of Indians on Long Island.** Portrait of Robert Fulton painted by

himself, the property of Col. Henry T. Chapman and loaned by him to the Museum. Open September 1st to December 31st. (Illustrated catalogue for sale.)

Take Subway Express to Atlantic Avenue, or Flatbush Avenue Trolley from Brooklyn Bridge. St. John's Place surface car from Atlantic Avenue or Borough Hall.

CHILDREN'S MUSEUM (Brooklyn Institute), Bedford Park, Brooklyn Avenue. Collection illustrative of the fauna of Long Island. Open free to the public from Monday to Saturday (inclusive) from 9 a.m. to 5.30 p.m., and on Sunday from 2 until 5.30 p.m.

CITY HISTORY CLUB OF NEW YORK, 21 West Forty-fourth Street. Special Exhibition of Illustrations, Photographs, Maps and Plans relating to the history of the City of New York, and all of the originals used in the City History Club Historical Guide Book of the City of New York.

COLLEGE OF THE CITY OF NEW YORK, St. Nicholas Avenue and 139th Street. Hudson-Fulton Exhibit. During the Hudson-Fulton Celebration and for some weeks thereafter, the College of the City of New York will have on exhibition in its historical museum a collection of charts, views, manuscripts and relics representing old New York. Among the charts will be original prints of New Netherlands and New Amsterdam by Nicholas J. Vischer, about 1650; N. Visscher, 1690; Lotter's "New Jorck," 1720; contemporary plans and views of the Revolutionary period showing the movements of Washington and Howe in this vicinity during the Campaign of 1776; Revolutionary battle relics; portraits, residences and letters of old New Yorkers; bronze busts of Washington, Lincoln and Fulton by Houdon and Volk; and other material suggested by the celebration.

Take Sixth Avenue Elevated Railway to 140th Street, or Broadway Subway to One Hundred and Thirty-seventh Street.

DEPARTMENT OF PARKS, BOROUGHES OF BROOKLYN AND QUEENS. Through the courtesy of Commissioner Michael J. Kennedy, the different species of trees have been labeled in Prospect Park, from the Plaza to the Willink Entrance; in Bedford Park; in Highland Park, and in Tompkins Park. An additional small enameled sign has been hung on those labeled trees that were indigenous to the Hudson River Valley in 1609. The special label reads: "This species is a native of the Hudson River Valley."

FRAUNCES TAVERN, 54 Pearl Street, near Broad Street. Historic Revolutionary Building. Built in 1719. Scene of Washington's farewell to his officers on December 4, 1783. Restored December 4, 1907, by the New York Society of the Sons of the Revolution. Open daily, except Sundays, from 9 a.m. to 6 p.m. **Special Exhibition of Revolutionary Relics by the New York State Society of the Sons of the Revolution, who are the owners of the historic building, September 15th to November 1st.**

Take Subway to Bowling Green Station, or Third Avenue Elevated Railway to Hanover Square Station, or Broadway surface cars.

LONG ISLAND HISTORICAL SOCIETY, corner of Pierrepont and Clinton Streets, Brooklyn, between Brooklyn Bridge and Borough Hall. Open daily, except Sundays, from 8.30 a.m. to 6 p.m. Reference library of 70,000 volumes; manuscripts, relics, etc. **Autograph receipt of Robert Fulton and original manuscript volume of Danker's and Sluyter's "Journal of a Voyage to New York in 1679-80."**

Take Subway to Borough Hall, Brooklyn; Third Avenue Elevated Railway or surface cars to Brooklyn Bridge, connecting with Bridge cars.

METROPOLITAN MUSEUM OF ART, Central Park East. Main entrance on Fifth Avenue at Eighty-second Street. Open daily, except Sundays, from 10.00 a.m. to 6.00 p.m.; until Dec. 31st, to 5.00 p.m.; Saturdays to 10.00 p.m.; Sundays from 1.00 to 6.00 p.m. On Mondays and Fridays an admission fee of 25 cents is charged, except to members and copyists. Collections illustrating all departments of Art and Archaeology. **Special Exhibition of a magnificent Collection of over 130 of the works of 17th century Dutch Masters, constituting the finest Exhibition of this kind ever made. Products of Colonial Art: American Paintings, Furniture, Pewter and Silver of the 17th and 18th centuries, etc.** (Two catalogues for sale, one of Dutch Exhibit and one of Colonial Arts; price, 10 cents each. Also finely illustrated edition de luxe.)

Take Fifth Avenue stages or Madison Avenue surface cars to Eighty-second Street, one block east of Museum; connection with Subway at Forty-second Street, and with Elevated Railway and West Side surface cars at Fifty-ninth Street.

NATIONAL ARTS CLUB, Twentieth Street near Irving Place (Gramercy Park). This house was formerly the residence of Samuel J. Tilden, and is situated one block east of the birth-place of Ex-President Roosevelt. Open daily from September 20th to about October 18th, 1909, from 10 a.m. to 6 p.m. **Special**

Loan Exhibition by the National Arts Club, in coöperation with the American Scenic and Historic Preservation Society.

Three centuries of New York City: Special Exhibition of Paintings, Photographs, Drawings and other interesting materials, illustrating the growth and progress of New York from the time of Henry Hudson to the present day.

Take Fourth or Madison Avenue surface cars to corner of Fourth Avenue and Twentieth Street, one block west of Club-house. Subway Station at Eighteenth Street and Fourth Avenue, three blocks away.

NEW YORK AQUARIUM, in Battery Park. Under the management of the New York Zoölogical Society. Open daily, including Sundays, from 9 a.m. to 5 p.m. until October 15th. (October 16th to April 14th, from 10 a.m. to 4 p.m.) This building was erected in 1807 by the United States Government as a fort and after the War of 1812 was called Castle Clinton; later, as Castle Garden, it was the scene of Jenny Lind's triumphs, and from 1855 to 1890 it was the portal of the New World for 7,690,606 immigrants. This is the largest aquarium in the world and contains a greater number of specimens and species than any other. **All tanks containing fish indigenous to the Hudson River will be so marked.**

Take any Elevated Railway to Battery Place Station, or Subway to Bowling Green Station. Also reached by all surface cars which go to South Ferry.

NEW YORK BOTANICAL GARDEN, Bronx Park. Museums open daily including Sundays from 10 a.m. to 5 p.m.; Conservatories from 10 a.m. to 4 p.m. Grounds always open. In the Grounds and Conservatories exhibits of Plants, Shrubs, Trees and Natural Woodland; in the Museums, Plant Products utilized in the Arts, Sciences and Industries. All Trees growing on Manhattan Island and Hudson River Valley at the time of Hudson's arrival are marked with the letter "H." (Special illustrated catalogue for sale.)

Take Third Avenue Elevated Railway to Bronx Park (Botanical Garden). Subway passengers change at Third Avenue and 149th Street. Also reached by Harlem Division of the New York Central Railroad from Grand Central Station, Fourth Avenue and Forty-second Street.

NEW YORK GENEALOGICAL AND BIOGRAPHICAL SOCIETY, 226 West Fifty-eighth Street, between Broadway and Seventh Avenue. Open daily, except Sundays, from 10.00 a.m. to 5.00 p.m., until November 1st.

Special Exhibition of old Deeds, Manuscripts, Books, Portraits, etc., relating to the history of the United States up to and including the War of 1812. (Catalogue for sale.)

Take Broadway surface cars to corner of Fifty-eighth Street. Subway station at Columbus Circle (Fifty-ninth Street), two blocks distant. Sixth Avenue Elevated station at Ninth Avenue and Fifty-ninth Street, three blocks away.

NEW YORK HISTORICAL SOCIETY, corner of Seventy-seventh Street and Central Park West. September 25th to October 30th, open daily from 9 a.m. to 5 p.m. **Robert Fulton Exhibition of the New York Historical Society, in coöperation with the Colonial Dames of America.** (Catalogue for sale.)

Take Sixth Avenue Elevated Railway to Eighty-first Street and Columbus Avenue, or surface cars traversing Central Park West. Also reached by any Columbus Avenue surface car to Seventy-seventh Street.

NEW YORK PUBLIC LIBRARY, Lenox Branch, Fifth Avenue and Seventy-second Street. Open daily, except Sundays, from 9 a.m. to 6 p.m. **Special Exhibition of Prints, Books, Manuscripts, etc., relating to Henry Hudson, the Hudson River, Robert Fulton and Steam Navigation.** (Special illustrated catalogue for sale; price, 10 cents.)

Take Fifth Avenue Stages, or Madison Avenue surface cars to Seventy-second Street, one block east of Library; connection with Subway at Grand Central Station and with Elevated Railway and West Side surface cars at Fifty-ninth Street.

NEW YORK ZOÖLOGICAL PARK, under the management of the New York Zoölogical Society, St. Nicholas Avenue (138th to 140th Streets), in Bronx Park. Open daily, including Sundays, from 9 a.m. until an hour before sunset (November 1 to May 1 from 10 a.m.). Free, except on Mondays and Thursdays, when an admission fee of 25 cents is charged. Exhibition of a splendid collection of Animals, Birds and Reptiles. **The fauna of Henry Hudson's time on Manhattan Island and Hudson River Valley will be indicated by the flag of the Hudson-Fulton Celebration.** (Special illustrated catalogue for sale.)

Take Subway trains marked "Bronx Park Express" to terminus at 180th Street, or Third Avenue Elevated to Fordham Station. The entrances are reached by numerous surface cars.

REFORMED DUTCH CHURCH. The Reformed Protestant Dutch Church of the City of New York will make an exhibit in

the chapel of the Church of St. Nicholas, Fifth Avenue and 48th Street, during the week of the celebration, 9 to 5 daily.

This church was organized A.D. 1628, and the exhibit will comprise articles connected with its long history.

VAN CORTLANDT HOUSE MUSEUM, in Van Cortlandt Park.

This fine colonial mansion, built in 1748, with furniture of the period, is one of the oldest houses within the area of Greater New York; it is in the custody of the Colonial Dames of the State of New York. Open daily, 9.00 a.m. to 5.00 p.m. **Special Exhibition of Mezzotint Portraits of men prominent in political life prior to the Revolution; Wedgwood's Medallion Portraits of Illustrious Personages; Cartoons and Caricatures of political events, etc.** (Special illustrated catalogue on sale.)

Take Harlem Railroad from Grand Central Station; Sixth Avenue Elevated Railway, connecting at 155th Street with the Putnam Division of the New York Central Railroad; or Subway trains marked "Van Cortlandt Park."

WASHINGTON'S HEADQUARTERS (The Jumel Mansion),

Roger Morris Park, Edgecombe Road and One Hundred and Sixty-second Street. Built about 1760. Under the Department of Parks. Exhibition by the ladies of the Washington Headquarters Association, Daughters of the American Revolution. Open free daily, including Sundays, from 9 a.m. to 5 p.m. **Special features: Collection of Colonial furnishings, objects and pictures; also the Bolton Collection of War Relics of the Revolution.**

Take "Tenth Avenue, Broadway, and Amsterdam Avenue" surface cars of the Third Avenue system; Sixth Avenue Elevated Railway to One Hundred and Fifty-fifth Street, or Broadway Subway to One Hundred and Fifty-seventh Street.

BY SPECIAL CARD ONLY

AMERICAN GEOGRAPHICAL SOCIETY, 15 West 81st Street.

Special Exhibition of Books and Maps relating to Henry Hudson and Robert Fulton. Admission can be obtained by card. Apply to the Librarian, 15 West 81st Street. Open from September 25th to October 9th, from 9 a.m. to 5 p.m.

GEORGE F. KUNZ,

Hudson-Fulton Celebration Commission,
Tribune Building, New York.

THE HUDSON-FULTON CELEBRATION OF 1909

By DR. GEORGE FREDERICK KUNZ

NEW YORK CITY

SINCE the London Exhibition of 1851, and the first Paris Exposition of 1855, there have been probably one hundred expositions in various parts of the world. Generally they have been held in commemoration of some historic event or anniversary, and each one, large or small, has usually had some special distinctive feature. The great exposition at Chicago had its White City and its illuminations; the Buffalo Exposition had its architecture, its illuminations and the added advantage of its striking environment, and the various French expositions have each possessed peculiar points to mark their individuality. All of them have been held for six months or more, but in a great many cases from one third to one half of that time elapsed before all the departments were completed and opened to the public. In this way public interest was checked at the beginning, and when the exposition was finally completed, a good part of the allotted time had passed, and the enthusiasm always excited by these affairs had begun to flag.

New York in itself is not only the greatest exposition, perhaps, in the world, because of its geographic features and its wonderful resources, but its various lines of transit—surface cars, elevated railways and subways—facilitate the handling of great crowds. In addition to this New York lies between two rivers, and is as easily reached by boat as by rail, to say nothing of the attractive physical advantages this location gives it.

The writer, in an article published in the *North American Review* for September, 1902, and entitled "The Management and Uses of Expositions," strongly urged the holding of an exposition to mark the tercentenary of Henry Hudson's arrival at the mouth of the river which bears his name. The forecast of the present advantages of our city

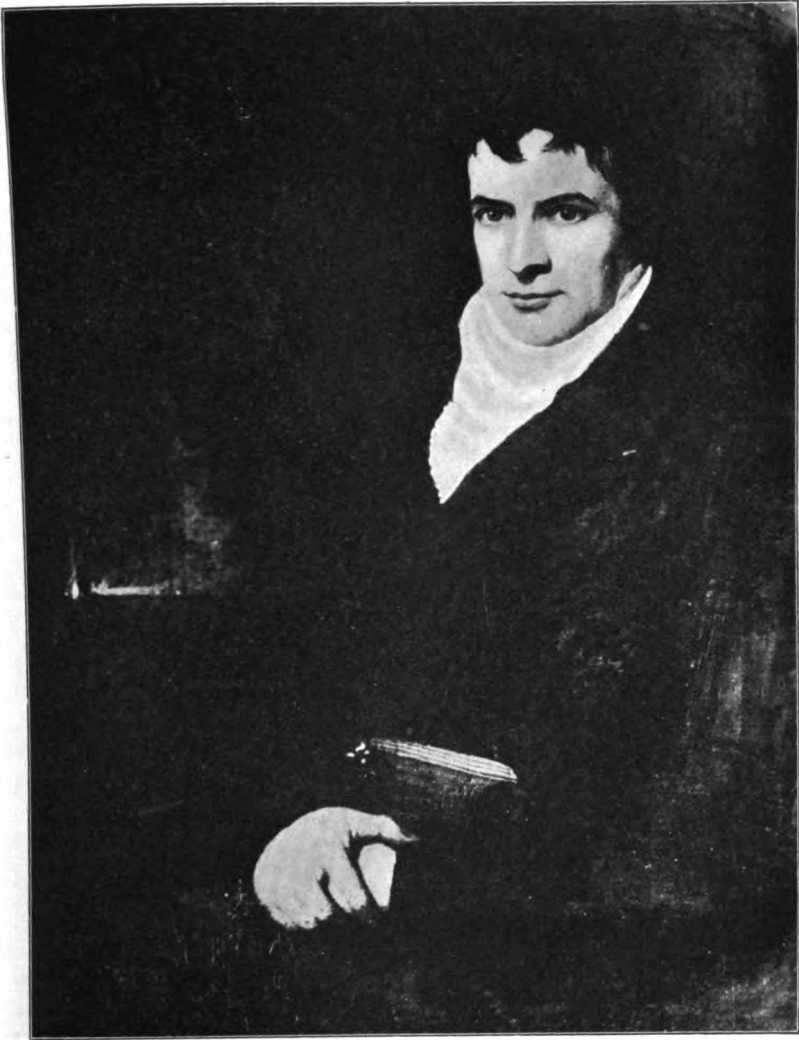


HENRY HUDSON (ideal). No artist's name attached.

given in this article has been almost literally fulfilled, and the writer realizes more than ever that he was correct in saying that the museums and institutions of our city would "furnish a greater display to the visitor than any exposition yet held on the continent."

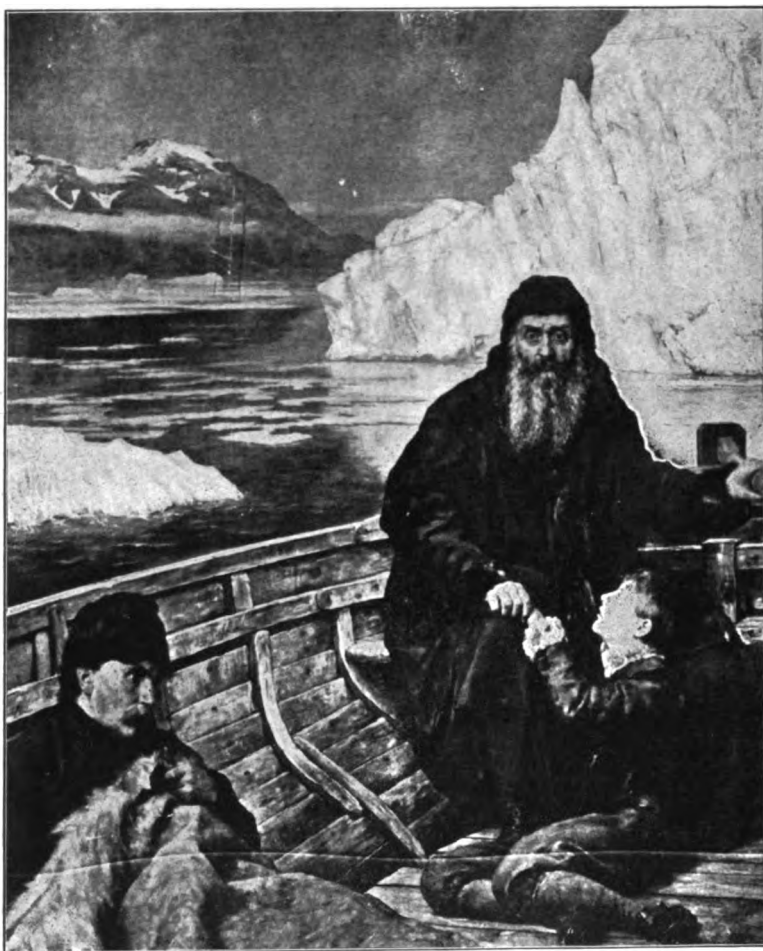
New York, with its great variety of public buildings, its miles of waterways, its dozens of museums, its many civic buildings, its great system of parks, stands alone as a prominent and fitting exposition ground. Why erect a city of staff, wood and other inflammable material to hold costly objects? Whoever contributed his much-prized works of art to such shelter, awaited, with fear and trembling, their safe return, and few of the finest things were ever loaned except in Paris, where they were shown in permanent structures such as the artistic Nouveau Salon, and its dainty neighbor, the Petit Salon, to the right of which is the magnificent Pont Alexandre II.

Although not so named, this Hudson-Fulton Celebration really presents the features of a great exposition, for when all the resources



ROBERT FULTON, by Benjamin West. Fulton as a youth went to Europe to study art. West was his teacher. This portrait of Fulton is said to represent West's best style. Hudson-Fulton Celebration Commission.

of New York are presented as they will be on this occasion, and given a brilliant and attractive setting, it will be found that no exposition ever organized on this continent has offered a greater variety of interest. To apply the standard of monetary value may seem a trifle vulgar when we are treating of the triumphs of art in all its forms, and yet this standard merely expresses the worth of antiquities and artistic creations in a more exact way than by using superlatives of speech. A reasonable estimate of the value of the attractions that our city offers to its visitors would be rather in excess of \$2,000,000,000 than below that figure, and



LAST DAYS OF HENRY HUDSON, by Sir John Collier. Original in Tate Gallery, London.
On his last voyage (in the *Adriatic*) Hudson was set adrift in a small boat
by his mutinous crew and nothing was later heard of him.
Hudson-Fulton Celebration Commission.

yet, where the great expositions of the past have cost from \$10,000,000 to \$20,000,000 or more for their organization, all the treasures and beauties of New York can be displayed at an expense of only \$1,000,000. A single building, the Metropolitan Museum of Art, with the objects it will hold, would not be over-valued at from \$30,000,000 to \$40,000,000.

At an exposition the public is called upon to pay fifty cents admission each time to enter the gates and an additional fee for each special exhibition. The great New York celebration will be free for all, even for those who have no car fare to enable them to ride. The demonstrations are in the heart of the city itself. They do not take place in some suburb, or barren, out-of-the-way spot. They are not encompassed

within a temporary city built like that at Coney Island, or held away out in the Bronx, on the Palisades or at Staten Island; neither is the celebration instituted or furthered to boom any special piece of real estate, or to sustain the selling of a quantity of traction stock or railroad stock that might be affected by an unusual traffic for the time being.

The celebration is designed to cover a very wide field, and the aim of the commission has not been confined to honoring the explorer of the Hudson River and the man who made steam navigation a permanent success; in addition to this the occasion has been utilized to illustrate and emphasize the development and greatness of New York City, the metropolis of the western hemisphere. Those who can understand the true significance of this celebration, and who are able to forecast the future, will see the vision of a still greater and more magnificent city, worthy of being called a world metropolis.

Although the naval parade owes its greatness to the presence of the American and international war fleet, and to the immense aggregation of vessels of all kinds and denominations assembled for the occasion, the place of honor is fittingly assigned to the replicas of the two small vessels which helped to make the names of Hudson and Fulton famous. The reproduction of the *Half Moon*, generously offered by the government of the Netherlands, is a craft of but 80 tons burden and is only 74½ feet long and 17 feet wide. The *Half Moon* will be under the command of Commander Lam, who will be costumed to impersonate Henry Hudson; the crew will also wear the dress of sailors of Hudson's time. A comparison with the *Celtic* shows in a striking manner the wonderful progress in naval construction, the giant liner being 700 feet long and 75 feet wide, while its tonnage is 20,904. The historic *Clermont*, which, in 1807, made its memorable trip up the Hudson, thus inaugurating steam navigation on the river, has been carefully reproduced. This craft, while larger than the *Half Moon*, is still small and insignificant in comparison with the magnificent steamers of to-day. It is only 150 feet long and 18 feet wide.

The reproductions of the *Half Moon* and the *Clermont* constitute the central point, the very focus, of the celebration, and this has been fully recognized by the commission. Hence the opening day, Saturday, September 25, will be devoted to a grand naval parade, perhaps the greatest naval pageant ever seen. The eighty warships, American and foreign, form the most imposing array of naval forces assembled at any time in the new world, and we may safely say that, with one or two possible exceptions, no fleet of equal might and numbers was ever brought together.

The United States will be represented by 16 battleships, 12 torpedo-boats, 4 submarines, 2 supply ships, 1 repair ship, 1 torpedo vessel, 1 tug and 7 colliers: 53 vessels in all, the battleships constituting the

most powerful fleet ever assembled except on a few occasions in the English Channel. Rear-Admiral Seaton Schroeder, U.S.N., is in command.

From the Netherlands comes the cruiser *Utrecht*, commanded by Captain G. P. van Hecking Colenbrander, R.N.N., and the replica of the *Half Moon*. Germany sends the cruisers *Dresden*, *Hertha*, *Viktoria Luisa* and *Bremen*, under the command of Grand Admiral H. L. R. von Köster, retired, of the Imperial Navy. The English squadron will con-



THE PURCHASE OF MANHATTAN ISLAND.

sist of the cruisers *Inflexible*, *Drake*, *Argyll* and *Duke of Edinburgh*, commanded by Admiral Sir Edward Seymour, of the Royal Navy. France will be represented by two battleships, the *Liberté* and the *Justice*, under the command of Vice Admiral Le Pord. From Italy come the cruiser *Etruria* and the schoolship *Etna*, on board of which will be the cadets of the Royal Naval Academy—the future officers of the Italian navy.

Latin America will also participate in the parade, Mexico being represented by the gun-boat *Bravo*, commanded by Captain Manuel E. Izaguirre; Cuba, by the revenue-cutter *Hatuey*; the Argentine Republic, by the warship *Presidente Sarmiento*, and Guatemala, by a coast-patrol boat.

An immense fleet of seagoing and coastwise merchant vessels, steam-boats, ferryboats, steam yachts, motor boats, tugs and steam lighters, sailing crafts, police boats, wrecking boats, fire boats, hospital boats, naval-militia vessels, steam cutters and launches, United States revenue-cutters and other craft, including the *Clermont* and *Half Moon*, will assemble in ten squadrons in the Harbor, in the vicinity of the Brooklyn,



A GENERAL PEACE.

NEW-YORK, March 25, 1783.

*LATE last Night, an EXPRESS from New-Jersey,
brought the following Account.*

THAT on Sunday last, the Twenty-Third Instant, a Vessel arrived at Philadelphia, in Thirty-five Days from Cadiz, with *Dispatches* to the *Continental Congress*, informing them, that on Monday the Twentieth Day of January, the PRELIMINARIES TO

A GENERAL PEACE,

Between Great-Britain, France, Spain, Holland, and the United States of America, were SIGNED at Paris, by all the Commissioners from those Powers; in consequence of which, Hostilities, by Sea and Land, were to *cease* in Europe, on Wednesday the Twentieth Day of February; and in America, on Thursday the Twentieth Day of March, in the present Year One Thousand Seven Hundred and Eighty-Three.

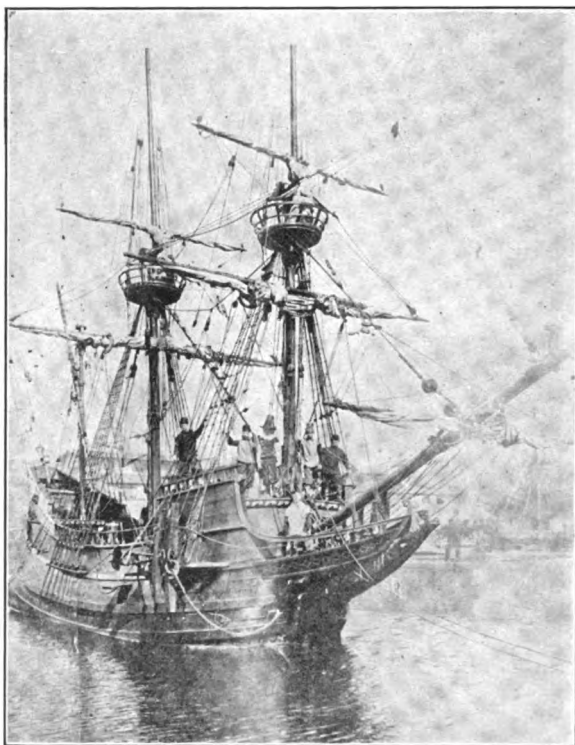
THIS very important Intelligence was last Night announced by the Firing of Cannon, and great Rejoicings at Elizabeth-Town.—Respecting the Particulars of this truly interesting Event no more are yet received, but they are hourly expected.

Published by James Rivington, Printer to the King's Most Excellent Majesty.

The foregoing "Broadside" has been compared with the original, in the Senate House, Kingston, N. Y., and found correct.

JULIUS SCHOONMAKER, Custodian.
Subscribed and sworn to before me, this 15th day of October, 1867.
C. HUNB. Notary Public.

Staten Island and New Jersey shores. An object of interest for all will be the historic *Roosevelt*, used by Commander Peary in his successful trip to the North Pole. Staten Island has contributed a reproduction of Commodore Vanderbilt's periagua, the forerunner of the Vanderbilt ferryboats between Staten Island and Manhattan. The warships will also rendezvous in the harbor, and at 1:30 P.M. the parade will begin, the warships in the lead. The whole array of vessels, at least seven miles in length, will advance, slowly and majestically, up



THE HALF MOON. An exact photograph of the replica of the *Half Moon*, in which Hudson sailed under the auspices of the Dutch East India Company, built by patriotic citizens of Holland and to be presented to the Commission.
Hudson-Fulton Celebration Commission.

the Hudson River. When the head of the column reaches Forty-second Street, the two leading warships will swing out of line and cast anchor opposite each other; a little further on the second pair will then perform the same evolutions, to be succeeded in turn by all the other warships, the line finally extending from Forty-second Street to 175th Street. The civic fleet will continue on its way, passing to the left of the warships until the head of the line is reached, when the vessels will cross over and move down the river between the warships and the Manhattan shore, to 110th Street.

In the meanwhile the replicas of the *Half Moon* and the *Clermont*, accompanied by their more immediate escort, will pass up between the lines of warships to 110th Street and will be greeted by a salute in passing. Arriving at 110th Street, the formal presentation of the two vessels will be made, the exercises taking place on a landing stage constructed at that point.

The parade of the civic fleet will be repeated in the evening, starting at 7:30 P.M., and will make a very brilliant spectacle, for the moving vessels as well as the warships will be illuminated with electric lamps, which will outline their form with a tracery of fire.

On Wednesday, September 29, about 9:30 A.M., the *Half Moon* and the *Clermont* will leave their anchorages at 110th Street and will proceed up the river, stopping for a time at Yonkers, Tarrytown, Ossining, Peekskill and Cornwall. On Friday, October 1, these vessels will arrive at Newburgh, where they will meet the Upper and Lower Hudson fleets. The latter fleet will leave New York on the morning of October 1, and will consist of the submarine *Costine* (the first submarine), twelve torpedo boats and a large number of other ships, divided into six squadrons.

There can be no question that the naval parade with which the Hudson-Fulton Celebration begins, represents the central idea of the whole festival. The spectators, in gazing upon the immense fleet of modern vessels, may find it difficult to realize that the tiny ships, the *Half Moon* and the *Clermont*, so faithfully reproduced for this occasion, occupy a more important place in the world's history than will all the gigantic vessels that are assembled to honor the two remarkable men who accomplished so much with such scant resources.

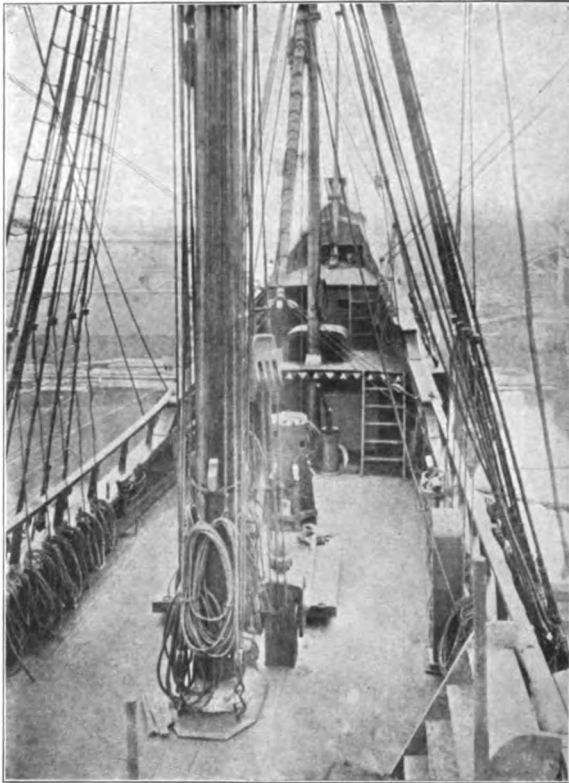
This lesson is especially important in our time, for the tendency of our day is to lay undue stress upon mere magnitude, and to believe that larger ships, larger buildings and larger cities necessarily mark a real progress in civilization. No sane person will deny the fact that the conditions of life have changed and are changing for the better—slowly, it is true—but there can be as little question that the rate of progress would be greatly accelerated if the essentials of civilization



THE HALF MOON.

were more regarded than the development of mere material greatness.

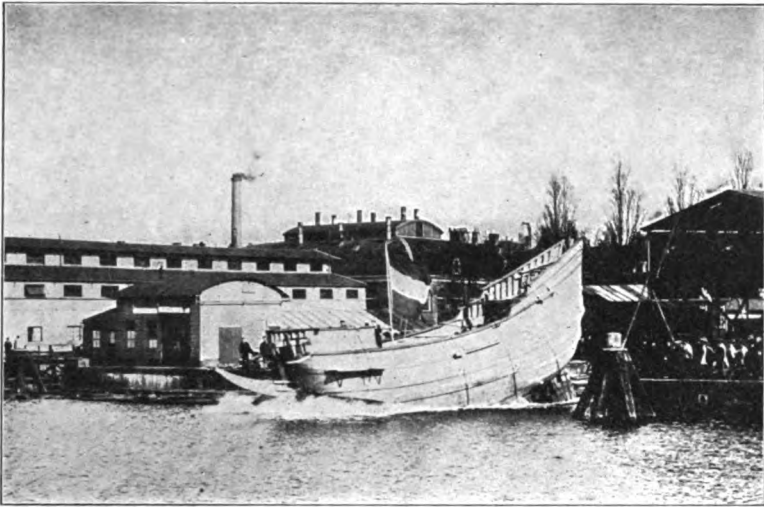
The first of the land parades, the great historical pageant, will take place on Tuesday, September 28, and will consist of 54 cars, or "floats," bearing groups of figures and accessories illustrating scenes from the history of the city or state of New York. These floats will be accompanied by marching bodies from various civic societies, American and foreign. The one which will head the procession has been named "The New York Title Car" and will bear a seated figure of the God-



THE HALF MOON.

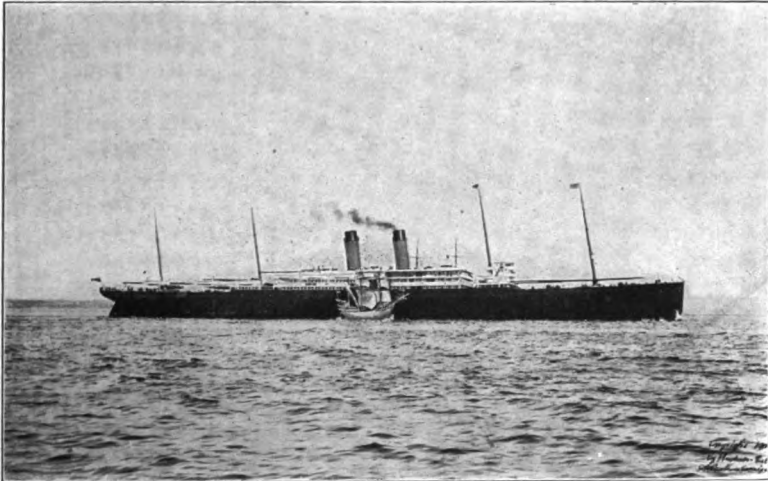
dess of Liberty; two owls, the birds of Minerva, are perched upon the high back of the chair on which the goddess sits, signifying that wisdom has guided her in her progress. The contrast between the primitive conditions of Henry Hudson's time and those of the present day is strikingly presented by the model of an Indian canoe alongside of that of an ocean liner, and by representations, in due proportions, of a "skyscraper" and of an Indian wigwam.

The parade will be divided into four divisions, devoted, respectively, to the Indian, the Dutch, the Colonial and the Revolutionary periods, each division being preceded by a car bearing a group which epitomizes

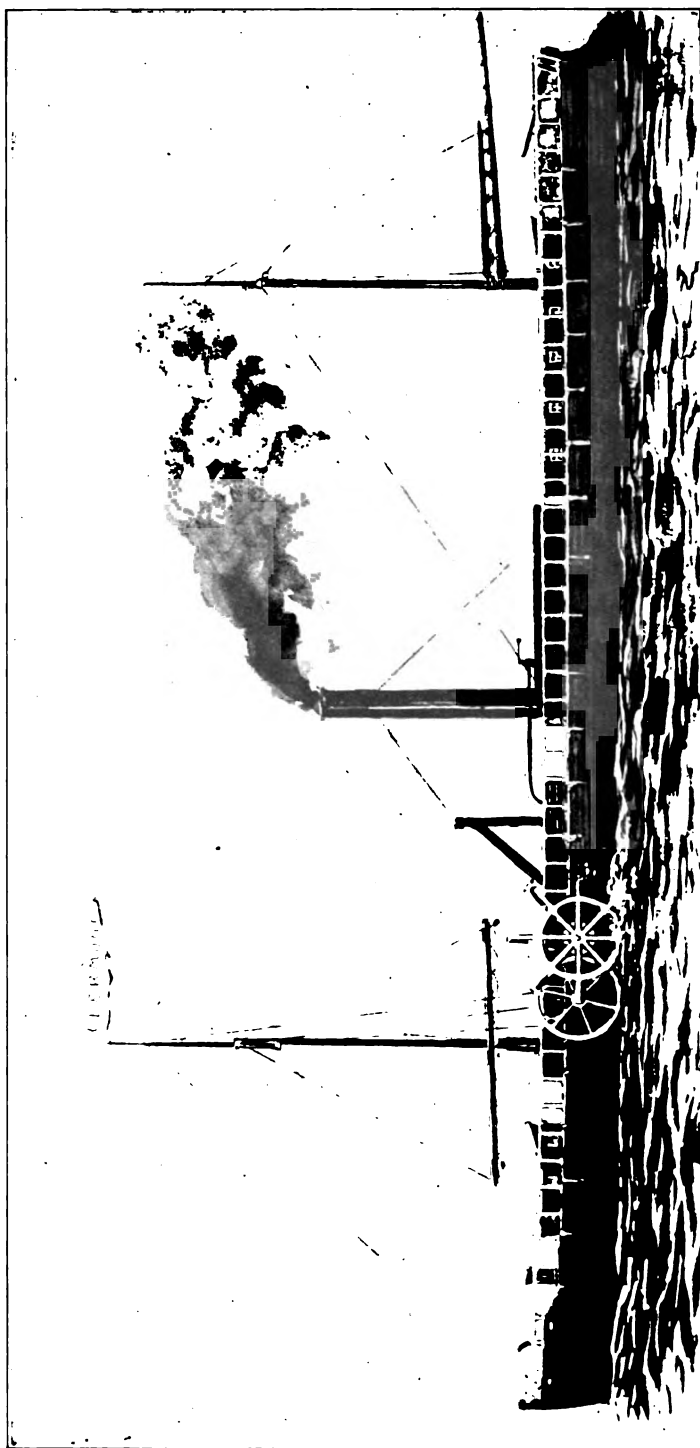


LAUNCHING OF THE HALF MOON AT AMSTERDAM.

the leading characteristics of the period. The last car typifies the hospitality of our city, a gigantic figure of Old Father Knickerbocker standing upon it with hands outstretched and extending a hearty welcome to all the nations of the earth. In order to add to the verisimilitude of the different groups, Iroquois Indians have been secured to man the Indian floats; members of the various Holland societies to represent



COMPARATIVE PICTURE, "CELTIC" AND "HALF MOON." *Celtic* (1909)—length 700 feet, beam 75 feet, depth 49 feet, displacement 37,870 tons, tonnage 20,904 tons, horsepower 13,000. *Half Moon* (1609)—length 74.54 feet, beam 16.94 feet, depth 10.08 feet, tonnage 80 tons. The *Celtic* crosses the Atlantic in a little less than eight days. The *Half Moon* crossed the Atlantic in fifty-nine days.



THE CLERMONT.
Copyrighted, 1906, by Hudson-Fulton Celebration Commission.

the characters on the Dutch floats, and descendants of the old Colonial families, members of the Society of Colonial Wars, Sons of the Revolution, etc., to perform the same service on the Colonial floats. The float showing the capture of Major André will be manned by descendants of John Paulding, one of André's captors.

The parade will begin at 110th Street and Central Park West and will proceed down Central Park West to 59th Street, through that street to Fifth Avenue, and down Fifth Avenue to Washington Square.

This parade will be repeated in Brooklyn on Friday, October 1, proceeding from the Memorial Arch at the entrance to Prospect Park by way of the Eastern Parkway to Buffalo Avenue. Richmond Borough will also have its historical parade, on a smaller scale, it is true. This will take place on Monday, September 27, and will traverse the Amboy Road, between New Dorp and Oakwood. The ceremonies on the site of the first church on Staten Island, founded by the Waldensians, will commemorate the first permanent settlement on the island.

The military parade will take place on Thursday, passing over the route followed by the historical pageant. It will be composed of the Federal Troops of the Department of the East, the National Guard of the State of New York within the limits of New York city, the United States Navy and Marine Corps, the Naval Reserve, the veteran organizations, and marines and sailors from foreign warships. It is estimated that 25,000 men will be in line.

The carnival parade on Saturday evening, October 2, will traverse the route followed by the historical parade and the military parade. This will unquestionably be one of the most interesting and probably the most brilliant feature of the celebration. It will be under the care of the German societies of New York, and the Germans have always displayed a remarkable aptitude for organizing and designing pageants of this kind. The fifty cars composing the parade will be artistically illuminated, and many thousands of torch-bearers will precede and follow the emblematic groups. These will represent music, art and literature, and the wide field of German legend, song and history will furnish most of the themes. The streets along the route of the parade will be made as light as day by festoons of electric lamps. This pageant will be repeated in Brooklyn on the evening of Saturday, October 9, and will pass along the Eastern Parkway.

The general illumination of the city every night during the festival period will offer the most brilliant spectacle ever seen in this country. All the municipal buildings, as well as thousands of private buildings, will be lighted up by tens of thousands of electric lights. The four bridges spanning the East River will be radiant with rows of lights, 14,000 being placed on the Queensboro Bridge, 13,000 on the Brooklyn Bridge, 11,000 on the Williamsburg Bridge and the same number on



the Manhattan Bridge. As seen from any point on the East River, these bridges will be outlined against the dark background of the night, so as to appear like structures of flame, evoked by a magician's hand. On the other side of the island, both shores of the Hudson River from Forty-second Street to Spuyten Duyvil will be ablaze with light. At 110th Street there will be a battery of twelve searchlights, aggregating 1,700,000 candle power; these lights will be directed up, down and across the river, illuminating an immense radius. Another battery of searchlights, four in number and aggregating 400,000 candle power, will cast its rays upon Grant's Tomb, which will be thrown into striking relief by the dazzling light.

The historical parade and all the other pageants of the week will

arouse in the minds of the beholders a more lively understanding of the history and development of our city, and, while delighting the eye, will convey an important lesson in the very best and most effective way—that is, unconsciously. A population like ours is greatly in need of some powerful stimulation of this kind to weld together all its heterogeneous elements. But let it not be supposed that this is the only end to be attained; such brilliant spectacles are a good in themselves and none will appreciate this more thoroughly than those whose life is merely a sad and monotonous struggle for their daily bread. On this occasion the poorest and the richest will share equally in the enjoyment of the various splendid and artistic spectacles.

Of the special exhibitions which have been organized by the Art and Historical Exhibits Committee, the most important is the magnificent collection of masterpieces by Dutch painters which will be seen in the Metropolitan Museum of Art, at Fifth Avenue and Eighty-second Street. Never before have so many splendid examples of Dutch art been gathered together in the United States; indeed, the exhibition as a whole has never been rivaled even in Europe. Here may be seen no less than thirty-five Rembrandts, a larger number than exist in any permanent collection, except that of the Hermitage in St. Petersburg. Then there are nineteen portraits by Franz Hals, who is only inferior to Rembrandt among the Dutch portraitists, and five specimens of the work of Vermeer van Delft, whose pictures are extremely rare, there being only thirty authentic examples extant. Besides the works of these artists there are fine and characteristic pictures by Jacob and Salomon Ruysdael, Cuyp, Hobbema, Metsu, Van Ostade and many others who were contemporaries of Henry Hudson. These works come from the finest private collections in the United States and many years will pass before an equally favorable opportunity will be afforded for the study of Dutch pictorial art.

The special exhibition also embraces a large and valuable collection of furniture, silver, pewter, porcelain and glass, produced in this country between 1625 and 1815, the year of Fulton's death; and there is also a fine collection of paintings by American artists born before 1800, including pictures by Woolaston, Copley, West, Allston, Peale, Stuart, Trumbull, Fulton, Doughty, etc.

We have all read of the Indians who were settled on Manhattan Island before the arrival of Henry Hudson, but few realize how many relics of these aborigines have been found here, especially at the upper end of the island. A large and valuable collection of these relics may be seen in the American Museum of Natural History, at Central Park West and Seventy-seventh Street, and a classic monograph, written by Dr. Clark Wissler, can be obtained at the same place, and will enable the visitor to understand the significance of the various relics. The



manners and customs of the Indians of Long Island are represented by an important exhibit in the Brooklyn Institute. Independent of any museum, and of ethnological interest, will be the 125 Indians, men, women and children, from New York reservations, who will participate in the landing of the *Half Moon*, and in several of the parades.

The early history of New York and the beginnings of steam navigation will be illustrated by an exhibition of views, paintings, manuscripts, books, etc., shown in the Lenox branch of the New York Public Library, detailed information in regard to the exhibits being offered in a special catalogue. The New York Historical Society, in its new building, on Central Park West, corner of Seventy-seventh Street, just below the American Museum of Natural History, exhibits many interesting pictures and relics relating to Robert Fulton. At the National Arts Club, No. 15 Gramercy Park, the special collection is entitled "Three Hundred Years of New York," and the visitor will see a large number of pictures and other objects illustrating the development of the city and its rapid and marvelous growth. A collection of oil paintings and old manuscripts concerning the early history of New York is exhibited by the Genealogical and Biographical



Society, No. 226 West Fifty-seventh Street, and rare manuscripts and books on the same subject may be seen at the College of the City of New York, St. Nicholas Avenue and 138th Street.

As is the case with all great inventions, steam navigation was not the work of one man alone, although Robert Fulton was the first to apply it consequently and permanently. Epoch-making inventions have usually been the work of a group of men pursuing the same end, often independently of each other, but the credit and glory of success is reserved for that one of them who possesses the energy and persistence requisite for ultimate triumph. Before Fulton built the *Clermont*, John Fitch had constructed a boat operated and propelled by steam, and John Stevens had already sailed a steamboat, his *Phoenix* being undoubtedly the first steamboat to sail on the ocean; but Fulton applied the ideas of Fitch and improved upon them to such an extent that he is rightly regarded as the parent of steam navigation. Aided by the advice of Chancellor Livingston, he secured a sort of monopoly in steamship building and his name will always be remembered among those of the great benefactors of humanity.

The portrait of Fulton by Benjamin West is justly regarded as one



GENERAL STEWART L. WOODFORD,
President of the Hudson-Fulton Celebration
Commission.

us something not to be found in other portraits, namely, the idea, or perhaps we should rather say the ideal, the artist has formed of himself.



HENRY W. SACKETT,
Secretary of the Hudson-Fulton Celebration
Commission.

*In Brooklyn Institute exhibit.
Published by his permission.

of the best works of our American painter, who became president of the Royal Academy in London. Fulton himself was an artist of considerable ability, and pursued his art studies in London under West's direction. Among his works is a most interesting portrait of himself, which can be seen in the Brooklyn Institute. Although this does not equal West's portrait in artistic merit, like other attempts of artists to portray their own features it gives



HERMANN RIDDER,
Vice-president of the Hudson-Fulton
Celebration Commission.

One of the most interesting of the printed documents referring to the Revolution is an old "Broad-side" printed in New York, March 25, 1783.² We are here given a vivid idea of the time required for the transmission of news in that day, for this sheet tells us that the first news of the signing of the preliminaries to the treaty of peace at Paris

Loaned by Colonel Henry T. Chapman.

on January 20, 1783, reached Philadelphia, by way of Cadiz, Spain, on the twenty-seventh of March.

The flora of Manhattan Island and its vicinity, in the time of Henry Hudson, is shown in the New York Botanical Garden, where these specimens are indicated by the letter "H," and in the parks of Brooklyn and Queens boroughs, a special sign in this case indicating the trees and shrubs which grew here in 1609. It is difficult for those who see this city of stone, brick-and concrete to imagine its appearance in Henry Hudson's time, when stretches of meadow land alternated with groves or small forests of trees, over the greater part of the territory, while the upper part of Manhattan Island was traversed with rocky ridges rising in some cases to a considerable height above tide-water. Except in the outlying portions of the city, all these irregularities have been effaced, but the large parks, especially Morningside Park and a portion of Central Park above 100th Street, still show much of the primitive conditions.

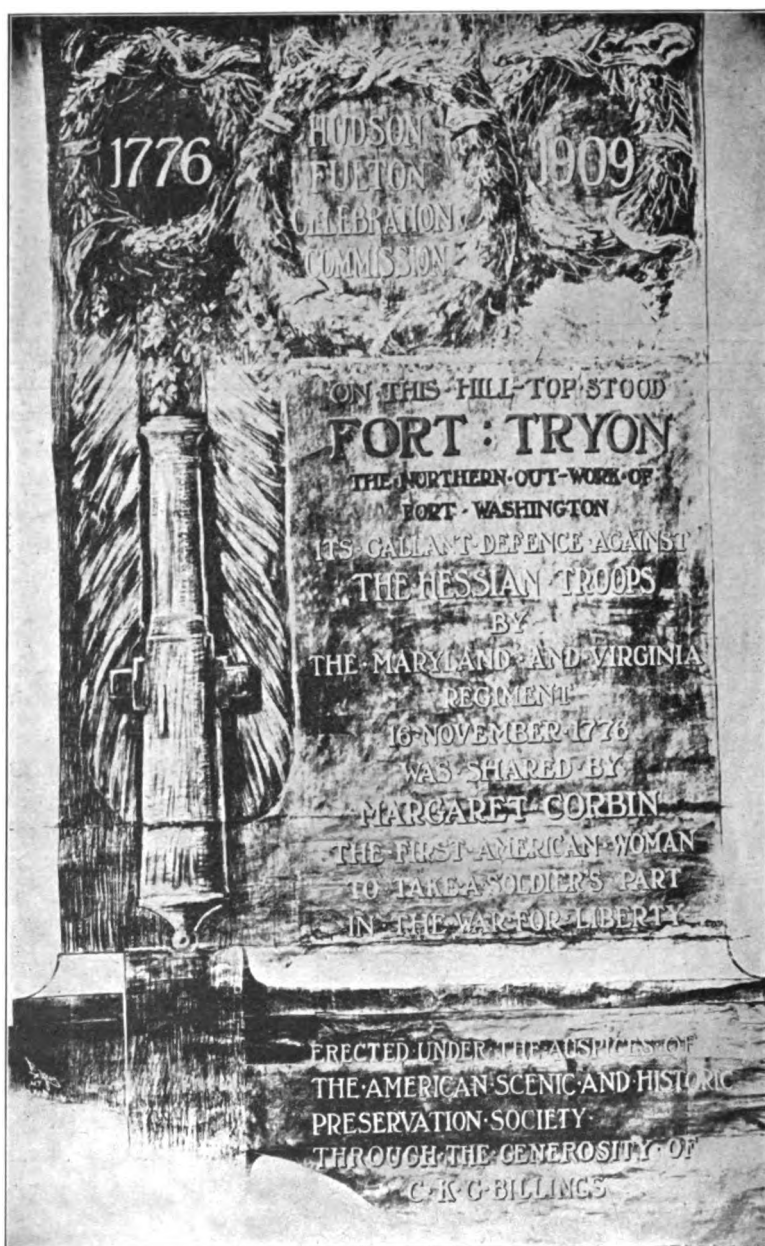
Such a transformation makes the old pictures of Manhattan Island seem unreal, nevertheless it should be a consolation for the present landowners to know that the land was duly and legally acquired by the first Dutch settlers, and although Peter Minuit may have made a good bargain, the title is clear and without stain.

Those who wish to form some idea of the fauna of this region at the time of Hudson's arrival should visit the New York Zoological Garden, where the specimens in question are marked by the flag of the Hudson-Fulton Celebration. In the New York Aquarium appropriate signs have also been placed on the tanks containing fish indigenous to the Hudson River and the waters surrounding New York.

For many special exhibitions catalogues have been prepared at considerable expense. The price at which they are sold scarcely covers the cost of printing them from the plates. A first edition of 5,000 to 10,000 copies has been printed, but when this supply is exhausted new editions of, say, 2,000 copies will be issued from time to time as occasion requires.

One of the leading features of the celebration will be a grand banquet of 2,000 persons in the magnificent new dining-hall of the Hotel Astor. This will be the greatest fine banquet ever given in this country, and the use of the hall has been held back to have this the initial banquet. It is true that in point of size it can not be compared with the dinner given to 22,000 *maires* of the French communes, at the opening of the Paris Exposition in 1889. Some idea of the gigantic proportions of this function may be given by the fact that the plates used in serving the dinner, if placed on top of each other, would have made a pile two miles in height. However, this was merely a dinner, while the function in the Hotel Astor is a grand banquet faultless in every detail.

In Brooklyn the social side of the celebration will find expression in



a ball to be given at the Brooklyn Academy of Music. Invitations have been extended to the officers of the American and International fleets, the diplomatic representatives of foreign nations, and many other distinguished guests, and the ball will undoubtedly be a brilliant and imposing affair.

Lovers of good music will have ample opportunity to gratify their

tastes. On Sunday evening, September 26, the masterpieces of Irish music and song will be rendered in Carnegie Hall by Irish citizens of New York, many of the songs being given in both English and Gaelic. In the Hippodrome, on the same evening, there will be a concert by the United German Singers of the Northeast District of New York.

On Monday evening, September 27, the Hudson-Fulton official ceremonies will open with a reception to the distinguished visiting guests at the Metropolitan Opera House, when all the distinguished foreign guests will present their addresses, after an official welcome by the Hudson-Fulton Celebration Commission, Gen. Stewart L. Woodford, Charles E. Hughes, Governor of the state of New York, Mayor George B. McClellan, and Mrs. Julia Ward Howe, over ninety years old, author of the "Battle Hymn of the Republic," will recite a poem.

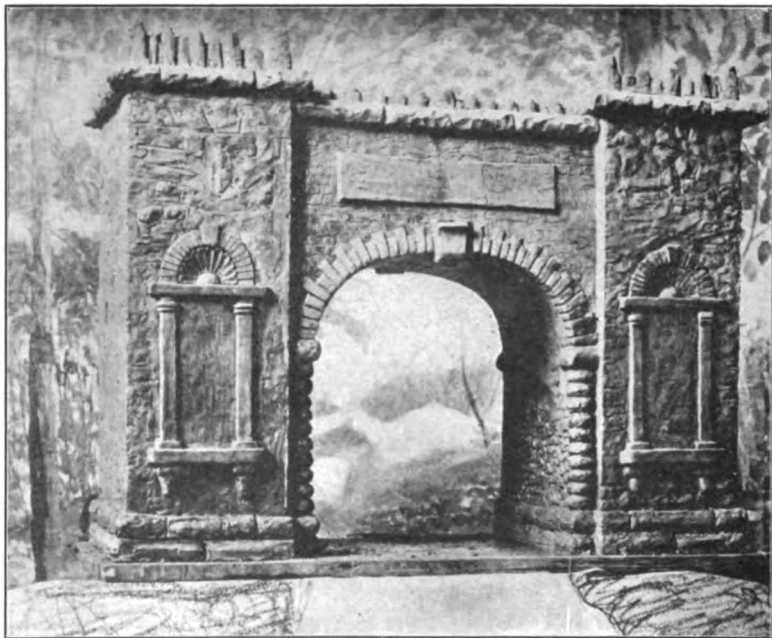
On Tuesday evening, September 28, there will be a musical festival by the German Liederkranz in the Metropolitan Opera House, and on Thursday evening, September 30, a concert will be given by the New York Festival Chorus in Carnegie Hall. Lastly, there will be a sacred concert at Carnegie Hall by the People's Choral Union, under the leadership of Walter Damrosch, on Sunday, the third of October.

Educational exercises, dealing with subjects appropriate to the celebration, and designed to be participated in by universities, colleges, schools, museums and learned and patriotic societies throughout the state, will be held on Wednesday, September 29. In New York City, the following lectures will be delivered in various rooms of the New York University: "Literature of the First Two Centuries of New York City," by Professor Francis H. Stoddard; "Conditions Determining the Greatness of New York City as a Commercial and Financial Center," by Professor Joseph F. Johnson; "The Political History of New Netherland," by Professor Marshall S. Brown; "History of Education in New York," by Professor Herman H. Horne; "Fulton and Other Promoters of Steam Navigation," by Professor Daniel W. Hering; "History of Steam Navigation," by Professor Charles E. Houghton; "A Comparison of the Steam Engine Before 1809 with Fulton's Steam Engine," by Professor Collins P. Bliss; "The Physiographic Development of the Hudson River Valley," by Professor Joseph E. Woodman. There will also be exercises in connection with the university's schools in Washington Square. In Brooklyn Borough there will be literary exercises on Tuesday evening, September 28, at the Brooklyn Academy of Music.

Commemorative services will take place throughout the city and state on Saturday, September 28. On this day the Reformed Protestant Dutch Church of the City of New York, organized in 1628 and representing the earliest religious organization in New York, will hold special commemorative services at 11 A.M. and 8 P.M., in its churches at Second

Avenue and Seventh Street, Fifth Avenue and Twenty-ninth Street, Fifth Avenue and Forty-eighth Street and West End Avenue and Seventy-seventh Street.

The Henry Hudson Monument on Spuyten Duyvil Hill will be dedicated on Monday, September 27, and is so placed as to form a prominent landmark. From a base ornamented with bas-reliefs springs a fluted Doric column, surmounted by a pedestal supporting the statue of Hudson. This monument, by Karl Bitter and Schrady, is a chaste and beautiful work of art. It is 110 feet high, and, being set upon an



GATEWAY ERECTED ON STONY POINT BATTLEFIELD BY DAUGHTERS OF THE REVOLUTION (New York State) and to be dedicated during Hudson-Fulton Celebration—September 25 to October 9, 1909—as part of the official program. Hudson-Fulton Celebration Commission.

elevation 200 feet above tide-water, it can be seen from a distance of several miles up and down the Hudson River, and even from the waters of Long Island Sound; the sum required for its erection was supplied by private subscription. The monument rests on the site of the Indian village of Nipinichsen, whence, on October 2, 1609, an attack was made upon the *Half Moon*.

The last scene of Hudson's life makes a gloomy picture. Set adrift in a small boat by the mutinous crew of his ship *Adriatic*, he passed away out of the sight of men and was never heard of again. In the dreary hours of aimless drifting over the tossing waves, and face to face with death, Hudson had not even the consolation of knowing that his

name would be handed down to posterity, and that nearly three centuries after his death millions of his race and speech would assemble to do him honor.

Land is so valuable on Manhattan Island that but few remain of the old buildings associated with the early history of the city. For this very reason a visit to four of these historic buildings which have been preserved from destruction will be of interest. Fraunces' Tavern, situated near the corner of Pearl and Broad Streets, is famous as the place where Washington bade farewell to his officers, December 4, 1783. The collection of old pictures and historic relics gathered here will gain in interest by the associations connected with the place.

Another building dating from colonial times is that formerly known as the Morris Mansion, or the Jumel Mansion. This fine old residence was built about 1760 and it was here that Washington established his headquarters during the military operations on the upper part of Manhattan Island. The building is now the property of the City of New York, and is under the care of the Daughters of the American Revolution (State of New York), who have brought together a very interesting collection of mementoes of the Revolution.

The Van Cortlandt Mansion, erected about 1748, is a fine and characteristic specimen of the colonial style of architecture, and will contain a valuable collection of portraits of men who played a leading part in the Revolution. This building is cared for by the Colonial Dames of the State of New York.

The Aquarium building in Battery Park was originally erected, in 1807, as a fort, and was named Fort Clinton in 1812. Many years later it was transformed into a theater and concert hall, under the name of Castle Garden. There are some still living who can recall the wild enthusiasm evoked by the "Swedish nightingale," Jenny Lind, when she made her first appearance before an American audience in this building. In 1855 a new use was found for Castle Garden and it became the goal of an immense host of immigrants, 7,690,606 passing through its portals in the period from 1855 to 1890.

One of the interesting exercises connected with the celebration will be the dedication of the Memorial Arch erected by the Daughters of the American Revolution in the Stony Point Battlefield State Reservation. The ceremonies will take place on Saturday, October 2. The governor of the state and many prominent citizens, as well as a number of military and civic organizations, will be present. The National Scenic Preservation Society, the official custodian of the reservation, will cooperate in the formal exercises.

On Wednesday, September 29, at 4 P.M., the American Scenic and Historic Preservation Society will dedicate the tablet erected through the generosity of Mr. Cornelius K. G. Billings, on the site of Fort Tryon,

on Fort Washington Avenue. This fort was gallantly defended on November 16, 1776, by the Maryland and Virginia Regiment, against the attack of the Hessian troops.

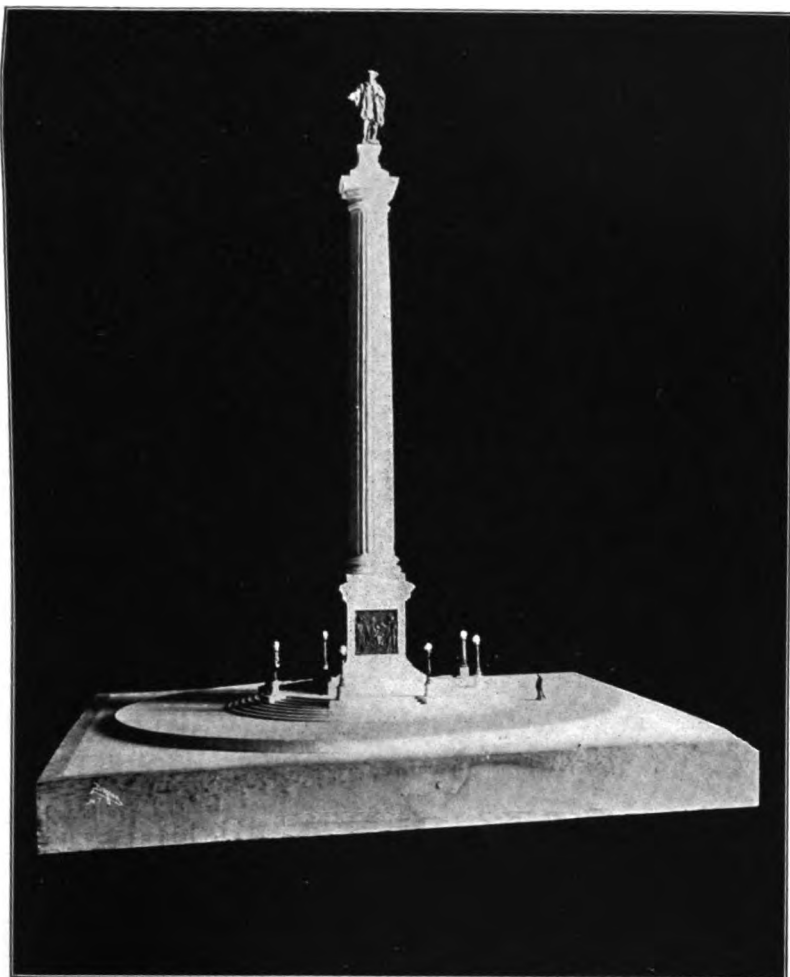
The following dedications have also been officially recognized by the commission: On Wednesday, September 29, the City Wall Bastion Tablet, at No. 48 Wall Street, New York, marking the site of a bastion in the old city wall to be dedicated by the Society of Colonial Wars in the State of New York; the Fort Amsterdam Tablet placed on the United States Custom House in New York City, marking the site of Fort Amsterdam, dedicated by the New York Society of the Founders and Patriots of America. On Monday, September 27, the Palisades Interstate Park, extending for thirty miles along the western shore of the Hudson River, from Fort Lee, N. Y., to Piermont, N. Y., will be dedicated by the commissioners of the Interstate Palisades Park. The date for the dedication of the bust of Verrazzano, the Italian navigator who visited New York Harbor in 1524, has not yet been selected by the Italian societies which have donated it to the city.

Aquatic sports will be the order of the day on Wednesday, September 29, when boat races will be held on the Hudson River, the boats being manned from the crews of the foreign and American warships. There will also be interstate contests between members of the Naval Reserves from different states, canoe races and motor-boat races. At Yonkers, on the same day, high-power motor-boats will compete, and there will be boat races between various amateur crews from clubs.

The astonishing progress in aeronautics during the past year has excited public interest to the highest pitch, and the celebration commission is making every effort to assure the presence of some of the leading aeronauts and aviators. While the arrangements for this branch of the celebration are not fully completed at the time of writing, the public will certainly be given an opportunity to see many types of dirigibles and aeroplanes, and some sensational flights will be made. If the weather conditions are favorable, the aeronautical exhibitions will begin on Monday, September 27.

In organizing the various parades and exercises, the celebration commission has not forgotten the children of our city, for whom special festivals will be held, on Saturday, October 2, at fifty different centers. There will be games, historical plays, folk-dances, etc., given by thousands of children from the public schools, and accommodations will be provided for a half million children to witness the spectacles.

The close of the celebration in all its phases will be marked by a chain of immense beacon-fires lighted on mountain tops and heights from Staten Island to the head of navigation on Saturday evening, October 9. All these beacons will be connected by electric wires and will be lighted simultaneously by President Taft. The beacons are made of peat with chemicals, so that they will burn even if it rains.



HENRY HUDSON MONUMENT. To be erected on Spuyten Duyvil by popular subscription at a cost of \$100,000, and to be dedicated as a part of the official program of the Hudson-Fulton Celebration. This monument is by Karl Bitter and Schrady, is 110 feet high and will stand on an elevation of two hundred feet above the water, being visible for many miles above the Hudson River and from Long Island Sound.

A special two-cent stamp to commemorate the Hudson-Fulton Celebration has been issued by the Post Office Department. The background of the design shows the Palisades, with the *Half Moon* sailing up the Hudson River, and the *Clermont* steaming in the opposite direction; in the foreground is an Indian in a canoe, and another canoe manned by four Indians can just be discerned in the distance. The commission has to thank Congressman Bennett and his colleagues, Congressmen Parsons and Olcott, for their successful efforts in securing the consent of the Postmaster General to the issue of these stamps, of which fifty million will be printed.



FIG. 1. INWOOD ROCK-SHELTER, MANHATTAN.

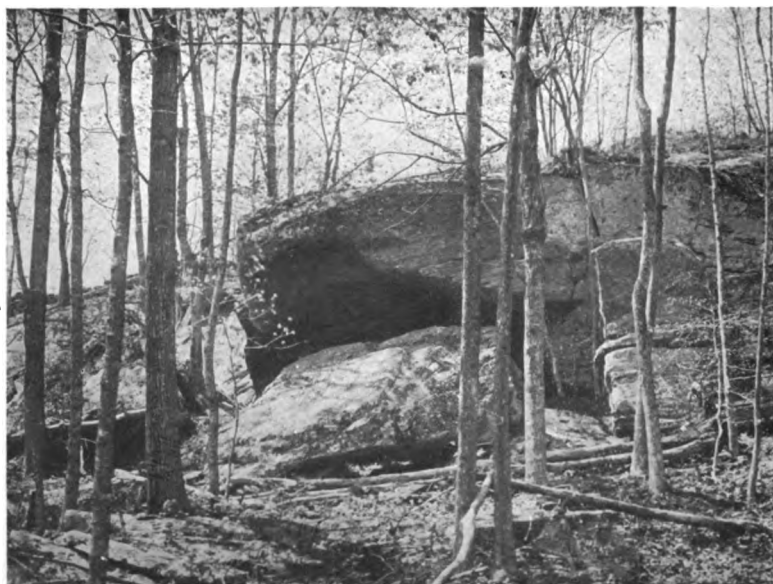
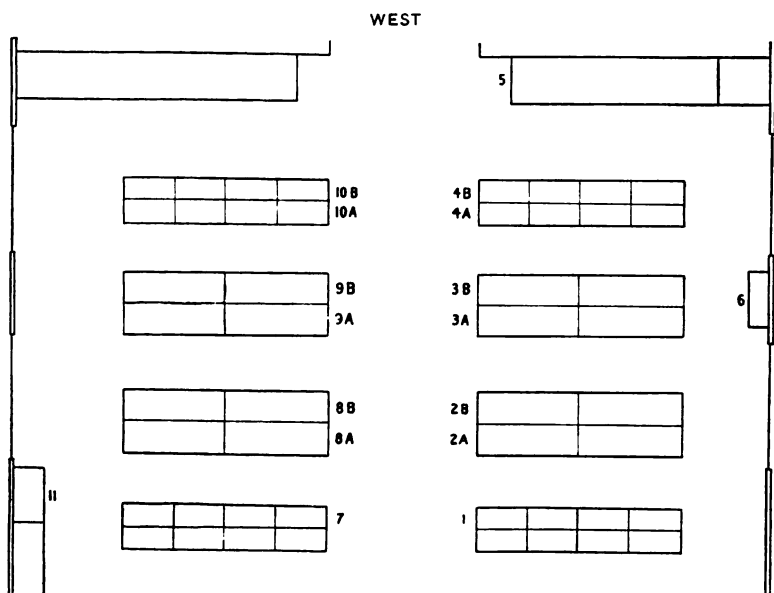


FIG. 2. FINCH'S ROCK HOUSE.

The Indians of Manhattan Island and Vicinity

**A GUIDE TO THE
SPECIAL EXHIBITION
AT THE
AMERICAN MUSEUM OF NATURAL HISTORY**

**PREPARED FOR THE
HUDSON-FULTON CELEBRATION COMMISSION
BY THE MUSEUM**



**FLOOR PLAN, WESTERN END OF THE HALL OF THE PLAINS INDIANS
(No. 102).**

EXPLANATION OF CASE NUMBERS.

- 1 Mohegan and Delaware. Iroquois: Clothing; Weapons.
- 2A Prehistoric Life in Greater New York.
- 2B Prehistoric Manhattan Island.
- 3A Shinnecock Hills, Long Island.
- 3B Van Cortlandt Park. Long Island.
- 4A Iroquois: Corn Food; Household Utensils.
- 4B Iroquois: Transportation; Games; Ceremonial Objects; Wampum.
- 5 Iroquois Group.
- 6 Shell Heap.
- 7 Iroquois: False Face Society.
- 8A Westchester County.
- 8B Upper Hudson.
- 9A Kah Kwah and Erie Indians of New York State.
- 9B New York State. Articles of European Manufacture.
- 10A Pottery of Greater New York. Husk Face Society.
- 10B Bolton and Calver Collection.
- 11 Rock Shelter.

NO. 29

OF THE GUIDE LEAFLET SERIES OF THE
AMERICAN MUSEUM OF NATURAL HISTORY

EDMUND OTIS HOVEY, EDITOR

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THE INDIANS OF MANHATTAN ISLAND AND VICINITY.

BY ALANSON SKINNER,
Department of Anthropology.

Introduction.

AS a part of the Hudson-Fulton celebration, a special exhibit representing the Indians of New York has been arranged in the West Hall, on the ground floor of the Museum. The low, or table cases, contain implements of stone, bone, shell and other materials, found on Manhattan Island and in and around Greater New York,—implements once used by the Indians occupying this region. In the upright cases will be found ethnological objects, many of which are still in use among the surviving Iroquois Indians of New York State. This guide, therefore, refers chiefly to the remains of Indians found upon Manhattan Island and adjacent shores, examples of which are shown in the table cases. The location of the various cases may be seen from the accompanying plan.

In using this guide, the visitor is advised to turn north, as he enters the exhibit and take a general view of the cases in the order designated; then it is suggested that he follow the discussion (pp. 14–36) of the various kinds of specimens found near New York City as he makes a second examination of the exhibits in the table cases.

The Hudson-Fulton exhibition is designed to show the life of the Indians of New York City and vicinity in prehistoric times, when primitive conditions were as yet unchanged by the advent of European settlers. The objects shown have been collected by Museum expeditions sent for the purpose of excavating the ancient village, camp and burial sites of the Indians in several localities within the area indicated, and the exhibits have been prepared from the remains thus secured. The remnants of the tribes that once occupied the primeval forests of Greater New York have so long been scattered and lost that almost nothing can be obtained from them now.

Beginning with the northern half of the exhibit, the visitor will find the first section of the upright case (1)¹ devoted to a few specimens showing some of the more perishable articles formerly in use among the Delaware and Mohegan Indians of this immediate vicinity. Most of these have been collected from the scattered remnants of these people, or else were obtained from old families who, since the disappearance of the natives, preserved

¹ See diagram on page 4.

articles of Indian manufacture in their homes as curiosities. The other portions of this case exhibit the clothing and weapons of the Iroquois.

The first table section (2A) is devoted to an exhibition, as comprehensive as possible, showing the life of the natives in prehistoric times by means of specimens obtained from the ancient village and camp sites. Here may be seen bones of the various animals, fish and shell-fish upon which the Indians depended for subsistence; fragments of nuts, corn, roots and other food products preserved by charring and obtained from ancient fireplaces, and such implements as arrow points of antler and stone, net-sinkers of stone and stone hoes for tilling the fields — all illustrative of primitive methods of hunting and agriculture. Implements exhibited in the same case show the preparation of animal and vegetable food with primitive utensils, while close by are tools used by the Indians in preparing skins. The manufactures of the Indians are illustrated in the immediately adjacent section (2B). A progressive series of implements shows the making of an arrow point from a simple quartz pebble such as might be picked up anywhere on the shore, with the various stages leading to the finished point; the tools employed are also exhibited. Implements of stone for pecking, grooving and polishing; hatchets and axes; pottery fragments, and household utensils, such as hammers, axes, adzes and gouges, will be found at hand.

In the other side of this table case (2B) there is an exhibit from Manhattan Island, made up of specimens principally collected by Mr. Alexander C. Chenoweth in the rock-shelters and village sites at Inwood, showing as fully as possible the life of the prehistoric Manhattan Indians. The exhibit illustrating, by means of models, the manufacture of pottery is especially noteworthy. From the appearance of fragments now to be found on the sites of the ancient Indian villages of this vicinity and the methods of modern Indian pottery makers, we may safely conclude that most, if not all, of the earthenware manufactured in this locality was made by the "coil" process, which consisted of the following steps. The Indians first secured clay of a suitable quality, which was mixed with pounded shell or stones to make it tougher and more durable. It was then worked into long rolls, and the Indian, beginning at the bottom, worked the pot up by adding coil after coil, blending or smoothing the coils with a smooth stone until they did not show from either the interior or exterior surface. The potter's wheel was not known to the aborigines in the olden days. When the pot was completed, it was decorated by stamping or incising designs about the exterior of the rim.

In the next table case (3A) are to be seen implements and remains from the shell heaps marking the long-forgotten Indian villages at Shinnecock Hills, Long Island. This exhibit, which is one of the most complete of its kind, gives a rather adequate picture of the ancient life of these people

and is especially valuable for the number and variety of primitive manufactures shown. One of the most interesting of the sections demonstrates, by means of a series of specimens, the primitive methods of cutting bone and antler employed by these Indians. Bone was cut by notching or grooving it with a stone knife or flake and then breaking it at the groove. Antler was worked in the same way, but it is very probable that the Indians boiled antler in order to make it more pliable and easily cut.

In the western side of this case (3B) there is a series of specimens collected from an ancient Indian village situated on the site of the Parade Ground at Van Cortlandt Park. In the adjacent section some specimens from Long Island in general are shown.

The upright case (4A) at the end contains an exhibit from the Iroquois Indians of New York State, and the small wall case (6) on the side shows a section of a shell heap with a map showing the location of most of the

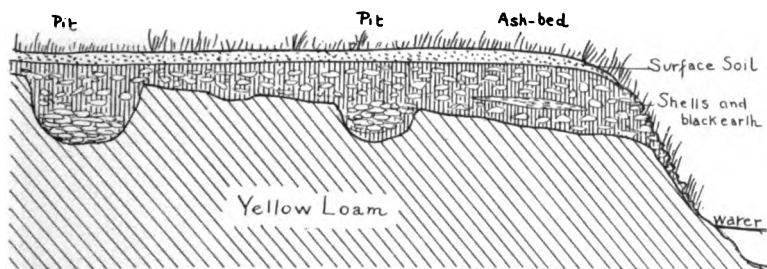


FIG. 3. DIAGRAM OF A TYPICAL SHELL DEPOSIT.

Indian villages of Greater New York and vicinity, as well as photographs and labels describing the opening and excavation of the sites. Specimens typical of those found in the shell heaps are also exhibited.

Of all the traces left by the aborigines along the New York seacoast, the most abundant and familiar are the shell heaps -- the beds of refuse marking the sites of ancient villages, camps and isolated wigwams. Wherever the fresh water joins the salt and especially where open water for fishing, a creek with its clam beds and a spring for drinking come together in happy combination, there is generally to be found some such evidence of Indian occupation, unless, as is often the case, settlement and improvement have buried deep the shells or carted them away.

The typical "shell heap" is not a heap at all, for leaf mold, the wash from neighboring high ground and often cultivation have made it level with its surroundings (Fig. 3). Very often, unless the land be plowed, no shells whatever show on the surface, and the only way of finding out the conditions

of things below the sod is to test with a spade or a crowbar. If shells are present, their crunching soon gives notice of the fact. Sometimes shell heaps have been located by shells thrown from mole and woodchuck burrows, or by outcropping in gullies washed by the rain, or banks broken down by the surf. They are generally located near some creek or bay on low but dry ground, preferably with an eastern or southern exposure, and, as before mentioned, not far from drinking water. Some have been found fronting on the open Sound, but such cases are rare. These deposits consist of large quantities of decayed oyster, clam and other marine shells mixed with stained earth, with here and there ashes, charcoal and fire-broken stones to mark the spots where ancient camp fires blazed. Among

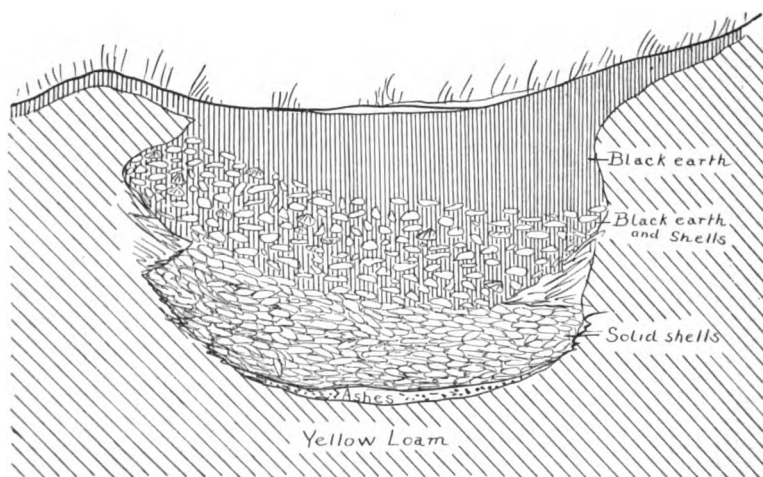


FIG. 4. CROSS SECTION OF A SHELL PIT.

the shells are usually scattered antlers of deer, fish bones, bones of animals and birds split for the marrow, quantities of pottery fragments, and broken implements, in short, the imperishable part of the camp refuse left by the Indians. Now and then, perfect implements and ornaments that had been carelessly lost in the rubbish or hidden for safe-keeping are discovered. Little did the Indian think, as he laid away his little hoard, that his handiwork would never see light again until he and his people had long been gone and forgotten.

Shell heaps vary from a few inches to four feet in depth, and in area from a few square yards to several acres — all depending on the length of time the settlement was occupied and the number of dwellings comprising it. Deep shell heaps are often divided into layers, the lowest of which are, of

course, the oldest. Under and near most of these deposits may be found scattered "pits" or fire holes, which are bowl-shaped depressions in the ground filled with layers of stained earth, shells and other refuse, with an occasional layer of ashes. Some pits are as large as ten feet wide by six feet deep, but the average is four feet deep by three feet wide. It is supposed that they were used as ovens or steaming holes and afterwards filled up with refuse (Fig. 4). Some contain human skeletons, which may have been interred in them during the winter season when grave digging was impossi-

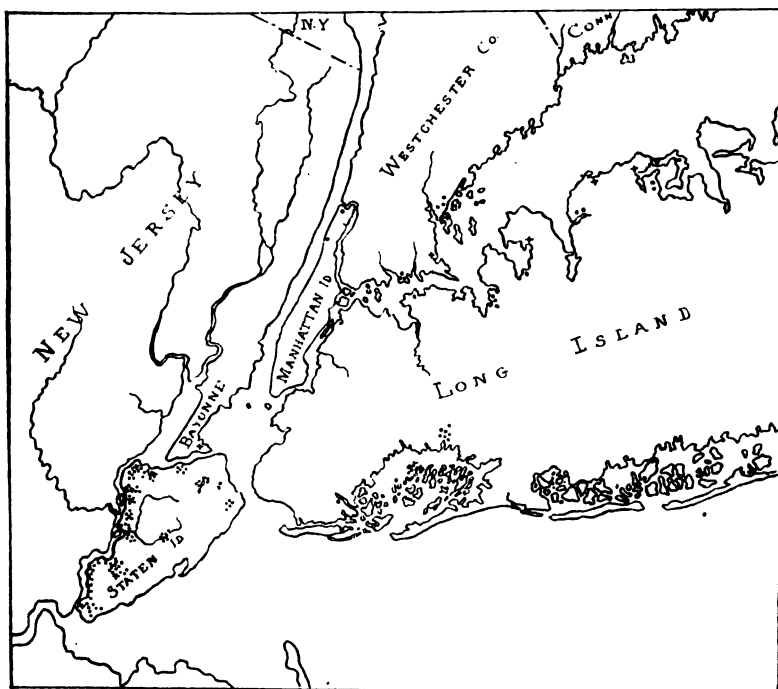


FIG. 5. MAP GIVING THE LOCATIONS OF SHELL DEPOSITS.

Those marked + have been explored by the Museum.

ble. Pits as a rule, contain more of interest than the ordinary shell layer. The closely packed regular masses of shells form a covering which tends to preserve bone implements, charred corn and such perishable articles from decay in a way that the looser shells of the general layers fail to do.

Shell heaps, while abundant along the seacoast, are seldom found inland, except on salt creeks or other streams having access to salt water. They may be seen all along the east shore of the Hudson River at more or less

frequent intervals up as far as Peekskill, and on Croton Point and between Nyack and Hook Mountain on the west shore they attain considerable size. There are a few small deposits, however, composed mainly of brook clams (*Unio*) situated on fresh water lakes in the interior of Westchester County. There are many shell heaps on Staten Island. Shell heaps occur or did occur on Constable Hook, New Jersey, and at intervals between there and Jersey City along the western shore of New York Bay. The accompanying map (Fig. 5) gives the location of the important known shell deposits of the vicinity of New York City.



FIG. 6. GRAVE OF SKELETONS WITH ARROW POINTS.

On the opposite side (4B) of the upright case, the Iroquois exhibition is continued, but the last section is devoted to a small exhibit showing the manufacture of wampum by the Indians of Long Island with prehistoric implements and a number of specimens of wampum belts and strings collected from the Iroquois of New York and Canada.

The wall case (5) at the western end of the room contains a group illustrating the costumes of the Iroquois Indians of a period from about 1790 to the present day.

Beginning on the south side of the aisle, the easternmost upright case

(7) is devoted to the False Face Society of the Iroquois, while the table case (8A) immediately following contains objects from Westchester County and Staten Island. In these sections an interesting feature of aboriginal life is shown. Although most of the Indians of the vicinity of Greater New York did not place objects in the graves with their dead, some graves at Burial Ridge, Tottenville, Staten Island, when opened for the Museum in 1895, were found to contain a great many interesting and valuable remains. With the skeleton of a child there was a great deposit of utensils, both finished and unfinished ornaments, such as beads, pendants, and the like, a stone pipe and a number of other objects, while not far away the skeletons of three Indian warriors were exhumed (Fig. 6), in and among whose bones there were found, as shown in this section, twenty-three arrow points of stone, antler and bone (Fig. 7).

This is an excellent exhibit indicating the use of the bow in Indian warfare. The skeletons lay side by side with the legs flexed as shown in the illustration (Fig. 6). In the first skeleton, it was found that two points of antler and one of bone had pierced the body and lodged near the spinal column. Another point of argillite had been driven between two ribs, forming a notch in each. A bone arrow point had struck the shoulder and was resting against the scapula. Among the bones of the right hand, an arrow point of antler was discovered, and there was a similar one near the left hand. Another antler point was lying in the sand just beneath the body and had, no doubt, dropped from it when the flesh wasted away. The most interesting wound of all was one where an antler-tipped arrow had ploughed through one side of the body and fully one-third of the point had passed through one of the ribs, making a hole, where it remained, as smoothly as if drilled. The second body was also terribly injured. The left femur showed an elongated puncture near the lower end, probably made by an arrow point. Among the ribs was the tip of an antler point, and a yellow jasper one was among the ribs on the left side of the body. Three other points were among the bones. The third skeleton was likewise an example of old-time bow play. There was an antler point among the ribs on the left side. The end of one of the fibulæ was shattered by a stone arrow point, and a second point had lodged between two ribs. Beneath the sternum was a flint point, and the right shoulder blade showed a fracture near the end, caused by a blow of some hand implement or an arrow. Near the base of the skull, the end of an antler arrow point was discovered, broken perhaps by its impact with the occiput. Two bone points were near the lower bones of the left leg. A second point was found upon search among the left ribs; under the vertebræ was the base of another antler point, and two broken points were found beneath the body.

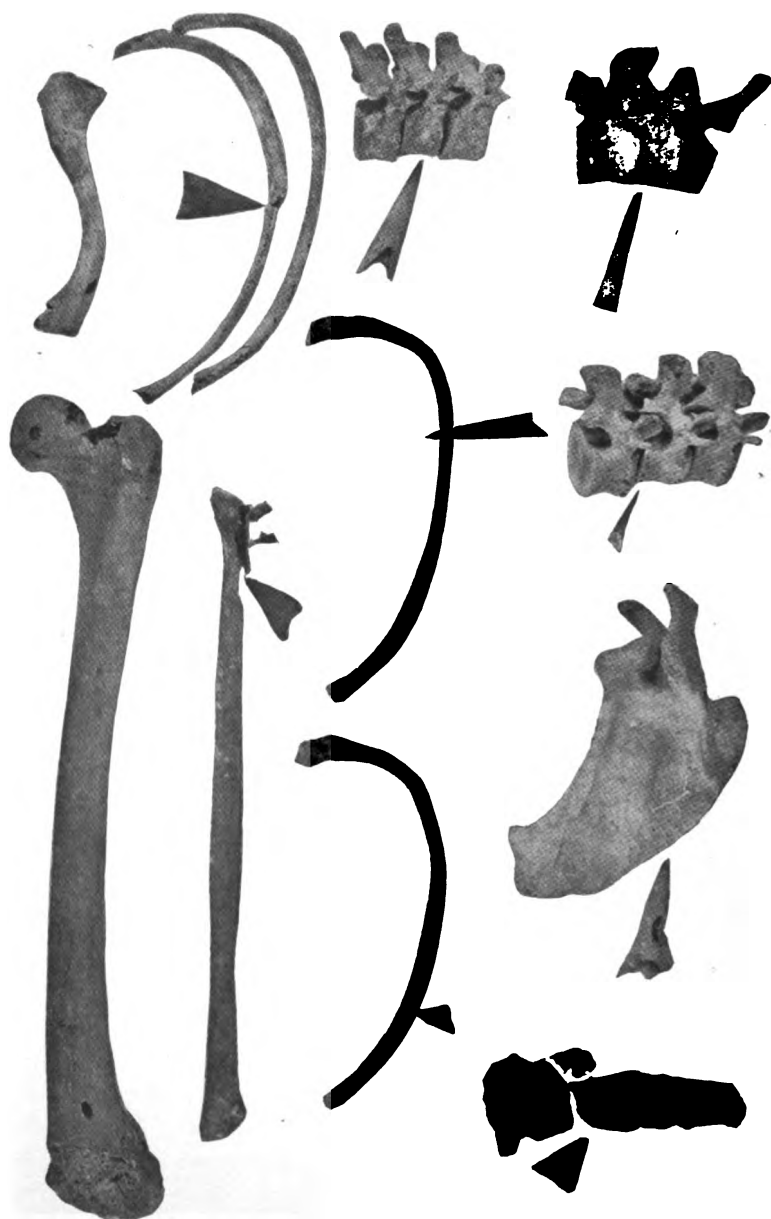


FIG. 7. BONES PUNCTURED BY ARROW POINTS, FROM SKELETONS FOUND ON STATEN ISLAND.

The position in which several of the points were found certainly speaks well for the great force which propelled them. The long bows of the local Indians must indeed have been formidable weapons. Taking into consideration the number of arrows which must have been imbedded in the bodies of the warriors, it is perhaps probable that the majority of the projectiles were driven into the victims at close range after death.

In the wall case (11) south of the exhibit will be found the model of a rock-shelter and typical objects found in such places. These, as the name implies, are protected spots in rocky ledges, where Indians once made more or less permanent places of abode. Many such shelters exist in the vicinity of New York, one or two having been discovered at Inwood, Manhattan (Fig. 1). The most important rock-shelter so far discovered is the so-called

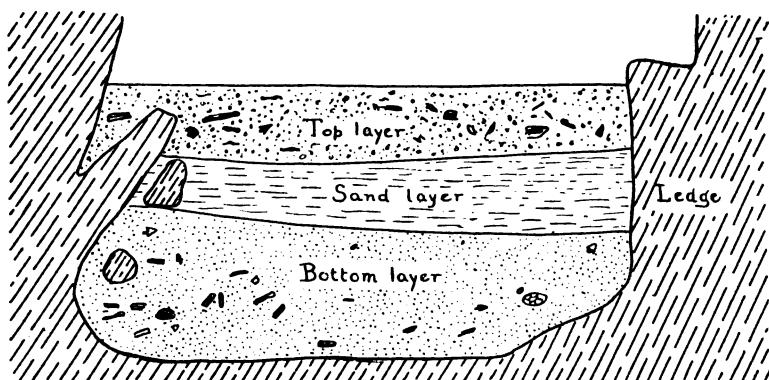


FIG. 8. VERTICAL SECTION OF REFUSE IN FINCH'S ROCK HOUSE, ABOUT MIDWAY OF THE CAVE

Finch House (Fig. 2) reproduced in the model. The original is near Armonk, Westchester County, New York. One point of special interest is the fact that the Finch shelter contained two layers bearing relics separated by sand as shown in the drawing (Fig. 8). As no pottery was found in the bottom layer, it has been inferred that we have here the remains of two different races of Indians, the older not yet advanced to the pottery-making stage. This conclusion, is, however, far from final, for the whole arrangement may be due to accident.

The table case 8B contains objects selected from the Henry Booth collection illustrating the life of the Indians of the Upper Hudson. They are especially interesting on account of the number of ceremonial "banner stones" found in that region, which are apparently not nearly so abundant anywhere else in this vicinity.

In the next table case the section 9A is devoted to the life history of some of the Iroquois tribes other than the Five Nations of western New York, and the following section (9B) shows, as well as possible, the culture of the Iroquois Indians of central New York and objects used by the Indians of New York State in general manufacture or obtained from the Europeans upon the advent of the settlers. In the upright case (10A) there is presented an exhibition of pottery vessels, all but one of which were found within the limits of Greater New York, and some implements from the Iroquois of the Mohawk Valley, besides material illustrating the societies of the Iroquois. On the other side, (10B), the entire case is filled with specimens from the Bolton and Calver collection from Manhattan Island, which will be more fully described below.

The Types of Indian Relics found in and about New York City.

Having now taken a general view of the exhibit, the visitor may be interested in a study of the several kinds of relics found in this locality. As these types are somewhat different from those found in near-by regions, we conclude that the Indians formerly living here had habits and customs different from those of their neighbors. For want of a better name, these long-extinct tribes have been called the New York Coastal Algonkin. The term Algonkin designates the language they spoke, while the adjective defines their habitat.

In the term New York Coastal Algonkin, the writer includes the tribes along the coast from Tottenville, Staten Island, the extreme southern point of the state, to the Connecticut boundary on Long Island Sound, including to a certain extent the shores of New Jersey immediately adjacent to Staten and Manhattan Islands, the east bank of the Hudson River as far north as Yonkers, and exclusive of Long Island except the western end. From the examination of the remains of the New York Coastal Algonkin area preserved in many collections, both public and private, it becomes obvious that the objects found may be roughly divided into three groups: articles of stone, articles of bone and antler, and articles of clay, shell and metal. The first group is, from the imperishable nature of its representatives, naturally the largest and comprises a number of sub-groups to be briefly described and commented upon in this paper. Examples of this type will be found in the table cases previously mentioned. For the following descriptions and historical notes the author has largely drawn on Mr. James K. Finch's and his own contributions to Volume III of the "Anthropological Papers of the American Museum of Natural History" (New York, 1909).

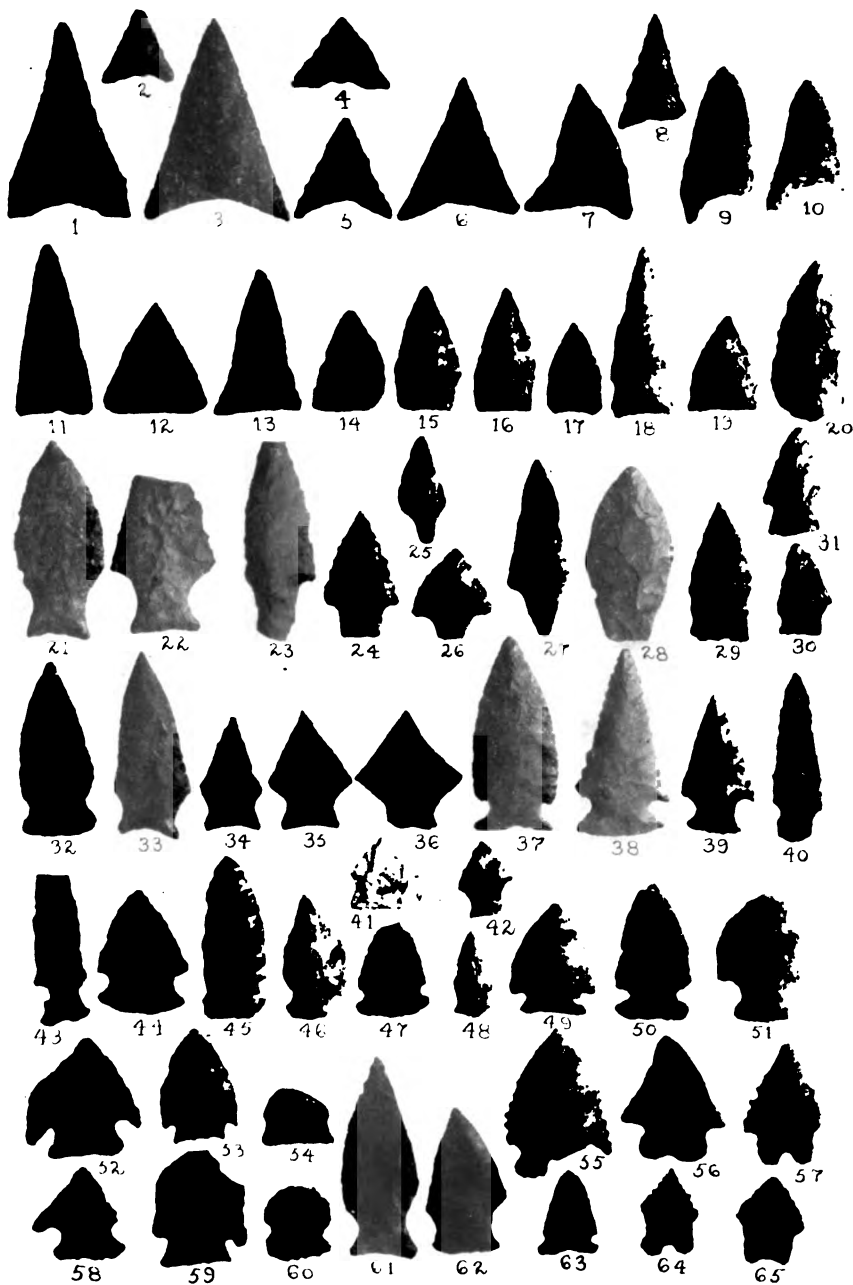


FIG. 9. TYPES OF ARROW POINTS.

CHIPPED ARTICLES.

Arrow Points (Fig. 9). Two general types may be recognized, and these are the stemmed or notched, and the triangular forms. The former are by far the most abundant, and while these are usually made of the nearest local rock possessing the necessary conchoidal fracture, in some cases they are of material brought from a long distance. Specimens made of pink flint resembling stone from the Flint Ridge of Ohio, and of jasper found to the south of this region have been recorded. Blunt arrow points are rare, the Indians probably preferring wooden arrows for this type. Many of the so-called "blunt-points" found in collections, appear to be scrapers made over from broken arrow points of a large size.

The triangular type has long been regarded by the local collectors of this vicinity as being the type used in war, the argument being that as it has no stem, it was necessarily but loosely fastened in its shaft and, if shot into the body, would be very liable to become detached and remain in the flesh if any attempt were made to withdraw it by tugging at the shaft. While it was no doubt perfectly possible to fasten a point of triangular shape to the shaft as firmly as a notched point, the discoveries of Mr. George H. Pepper at Tottenville, Staten Island, where twenty-three arrow points were found in and among the bones of three Indian skeletons, tend to strengthen this theory. While the majority were of bone or antler, all those made of stone were of this type, and indeed most of the bone points were also triangular in shape. However, it is well to bear in mind that arrow points of triangular type have been used for every purpose by all the early Iroquois tribes of New York.

Spear Points and Knives (Fig. 10). None of the early accounts of contemporary European writers seem to mention the use of spears (other than bone or antler-headed harpoons) by the Indians hereabouts, and it is probable that the larger arrow-point-like forms found were used as knives or cutting tools. They are usually notched or stemmed, rarely triangular, and occasionally round or oval. They vary in size, but it must be remembered that one tool may have had various uses, and that drills, knives and scrapers may often have been combined in one implement.

Scrapers (Figs. 10 and 11). Scrapers were probably used in dressing skins, and in sharpening bone implements, woodworking and for various other purposes. These are usually mere flint flakes chipped to an edge on one side. Nevertheless, notched and stemmed forms, requiring some care in their making do occur. Broken arrow points were occasionally chipped down to serve this purpose. A single serrated scraper has been found.

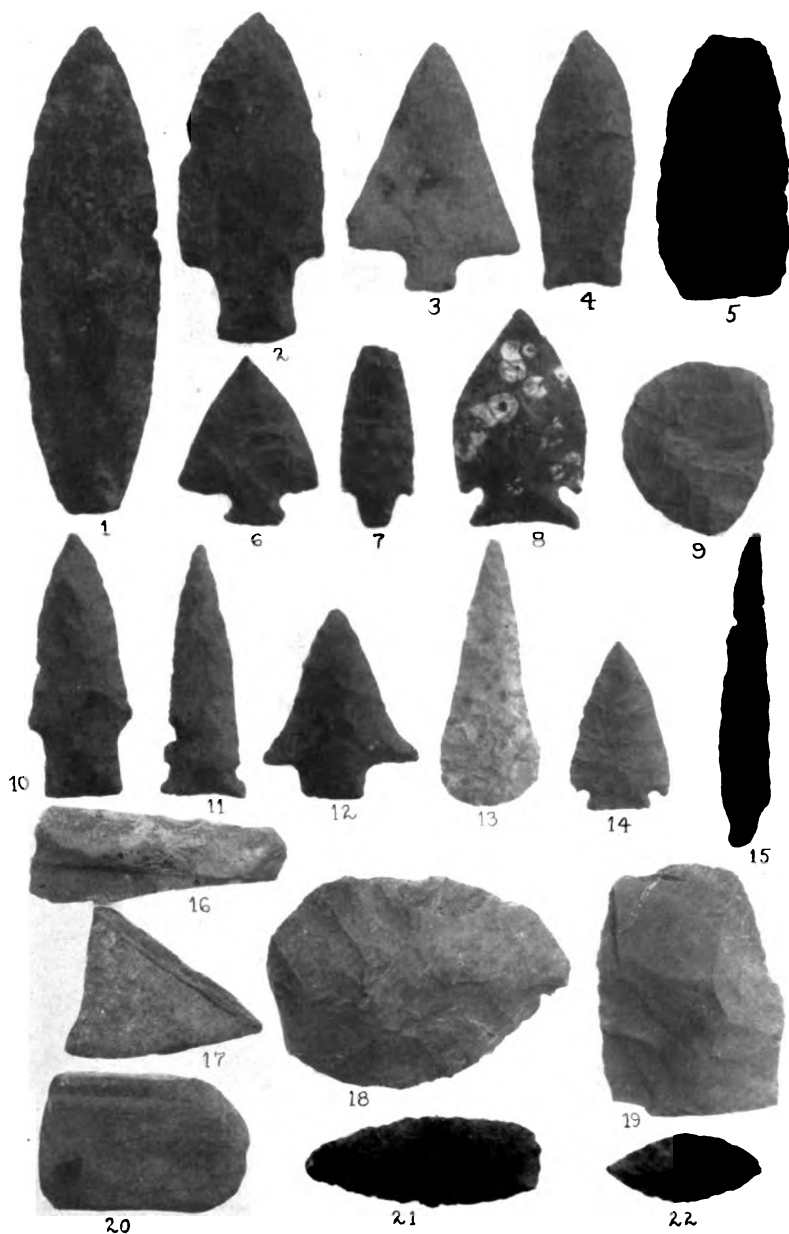


FIG. 10. KNIVES AND SCRAPERS.

These are very rare in both the Algonkian and Iroquoian areas of New England and the Middle Atlantic States. One very large stemmed scraper, of a type more common in the far west, also comes from this locality.

Drills (Fig. 11). These are usually chipped tools presenting an elongated narrow blade and a considerably swollen or expanded base, suitable for grasping in the hand. In some cases the base was absent and those were probably hafted in wood. Specimens whose blades have a square or rectangular cross section are very rare. The finding of cores left in half-drilled objects shows the use of a hollow drill, and it has been suggested that a hard hollow reed used with sand and water on a soft stone would produce this effect. To bear out this assertion, it has been reported that a half-drilled implement has been found (outside this area on the upper Hudson) in which the remains of the reed drill were found in the cavity left by its action.

ROUGH STONE ARTICLES.

Hammerstones. These vary from simple pebbles picked up and used in the rough, showing merely a battered edge or edges acquired by use, to the pitted forms. They are generally mere pebbles with a pit pecked on two opposite sides, perhaps to aid in grasping with the thumb and forefinger. Some have battered edges, but many have not, suggesting, when round and regular, a use as gaming or "Chunké" stones, or as implements used only in pounding some soft substance. Hammerstones, pitted on one side only, and others with many pits on all sides, occur. These latter may have had some special use, and are not to be confounded with the large flat, slab-like stones having pits only on one side, found in other regions, and perhaps used as receptacles for holding nuts while cracking them. While these are common in the Iroquoian area, they are unknown here.

Large stones, single or double pitted, resembling oversized hammerstones occur, and these may have been used as anvils in chipping flint or for like purposes.

Grooved clubs or mauls, also showing use as hammers are found. These are rare and are usually either rough pebbles, grooved for hafting, as in the case of the grooved axe, or grooved axes, the blades of which have become so battered, broken and rounded by wear as to preclude their further use for chopping.

Net-sinkers. On all sites near the water, either salt or fresh, net-sinkers show the prevalence of fishing. These are of two types. In one case a pebble is notched on opposite sides of either the long or broad axis; in the other a groove is pecked around the entire pebble in the same manner. The

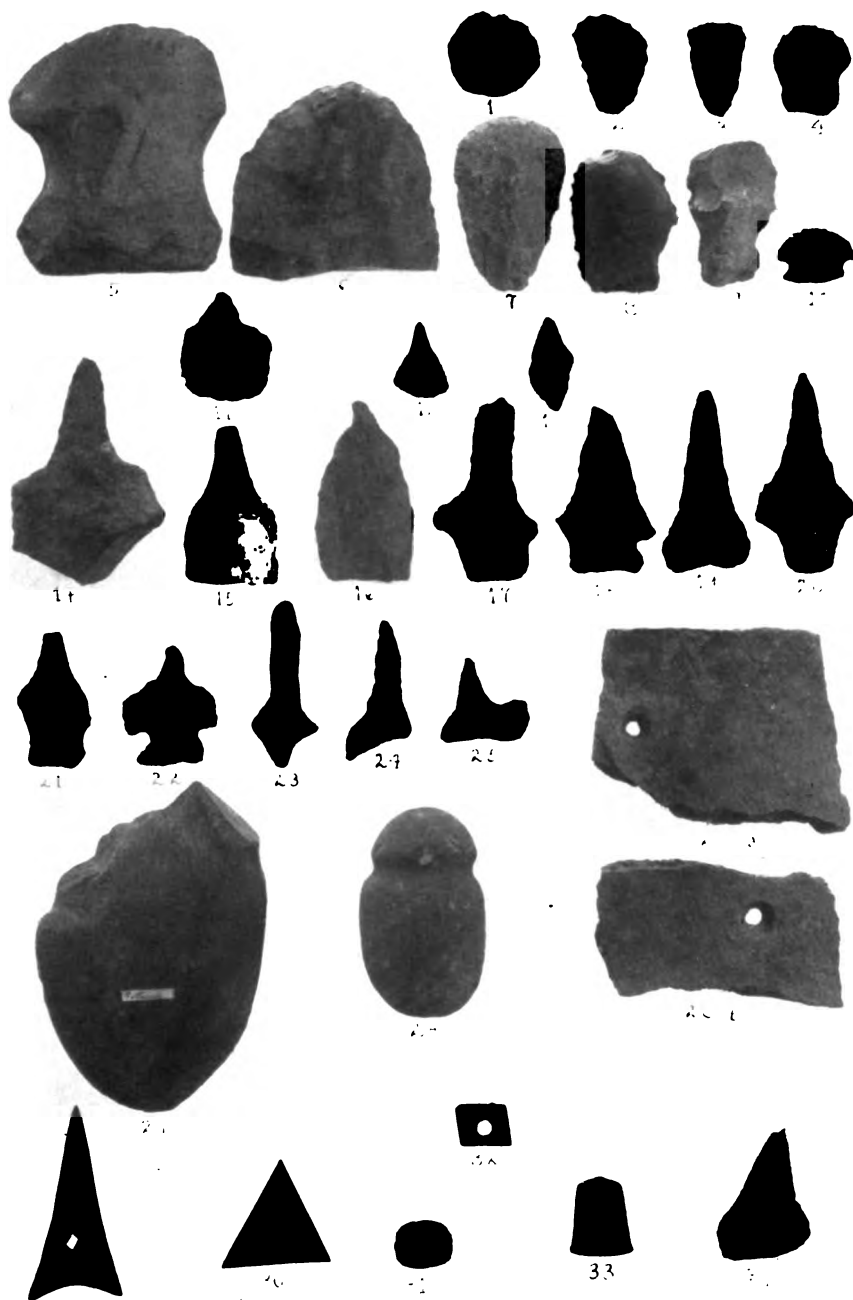


FIG. 11. DRILLS, SCRAPERS AND OTHER OBJECTS.

latter type is comparatively scarce, as the former, being more easily and quickly made, was just as useful to the savage. The modern Cree and Ojibway, residing in the forests north of the Great Lakes, still use pebbles for this purpose, but those observed by the writer were not notched or worked in any way. Occasionally, sinkers notched on both axes are found in this region.

Hoes. These are usually ovoid implements, chipped from trap rock and sometimes notched to facilitate hafting, and sometimes not. They usually show a slight polish on the blade, caused by friction with the ground. This stone type of hoe is the form mentioned by early writers; but perhaps hoes of shell, bone or tortoise shell, and wood were used also. None of these, however, are still in existence.

Hand Choppers. Pebbles chipped to an edge on one side, for use as hand choppers, occur. These are occasionally pitted on both sides.

Grooved Axes (Fig. 12). For the purposes of this paper, the writer, while aware that many grooved axes are well made and polished, has decided to include them under the head of "Rough Stone Articles," as by far the greater majority of the grooved axes and celts from this region lack the polish and finish belonging to other articles later to be described. Grooved axes are of two sorts: *a*, those made of simple pebbles, merely modified by grooving and chipping or pecking an edge; and *b*, axes which have been pecked and worked all over and sometimes polished. The latter (*b*) may be said to include:

1. Groove encircling three sides of blade, one side flat.
2. Ridged groove encircling three sides of blade, one side flat.
3. Groove encircling three sides of blade, longitudinal groove on flat side.
4. Groove encircling three sides of blade, longitudinal groove on flat side and opposite.
5. Groove encircling blade.
6. Ridged groove encircling blade.

A seventh type, having a double groove encircling the blade, may occur in this territory, but has never been reported. A specimen from the Hudson River region, just north of the area here dwelt upon, is in the Henry Booth collection in this Museum. While most worked stone axes have been pecked into shape, a few have been fashioned by chipping, but these seem to be rare.

Grooved axes were hafted in various ways. During the summer of 1908, the eastern Cree living in the vicinity of the southern end of Hudson Bay told the writer that their ancestors, who made and used such axes, hafted them by splitting a stick and setting the blade in it, then binding the handle together with deer-skin (probably rawhide) above and below the split. No specimens of the grooved axe in the original haft seem now to be extant

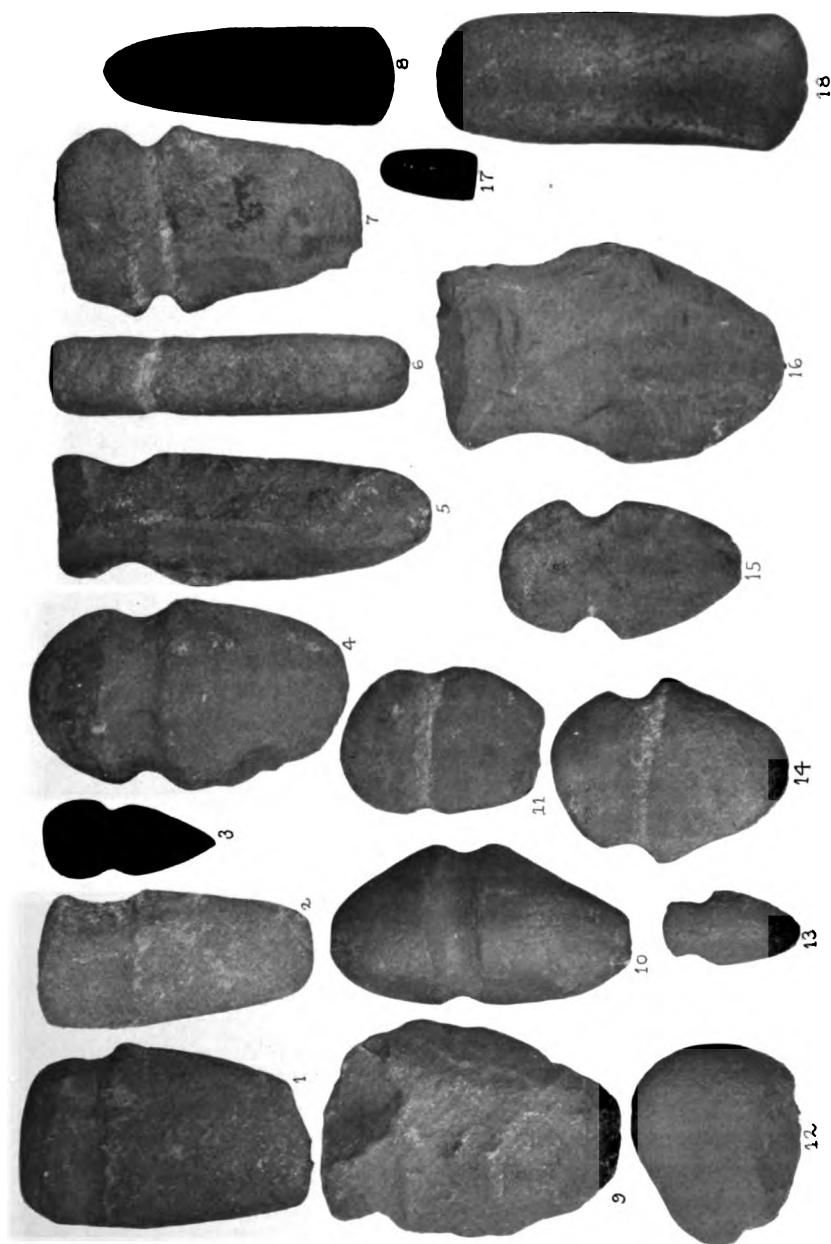


FIG 12. TYPES OF STONE AXES AND CELTS.

from any locality in the East. From the battered appearance of the butts of these axes, it may have been that they were sometimes used in lieu of mauls or hammers. It is possible that they may have been used in war. It is generally supposed that in cutting down trees, making dug out canoes and other kinds of wood-working, fire was used as an adjunct to the stone axe, the former being the active agent. The process of burning and charring having gone on sufficiently, the stone axe was used to remove the burned portion. However, some stone axes seem sharp enough to cut quite well without the aid of fire.

Celts (Fig. 12). Ungrooved axes or hatchets, usually called celts, are frequent throughout this area; but are nowhere as abundant as the grooved axe, especially near the southern border of the region. The grooved axe seems to have been the typical cutting and chopping tool of the local Algonkin. The widespread idea that the celt was sometimes used unhafted as a skinning tool, has no historic proof, but may possibly have some foundation. The Cree of the southern Hudson Bay region use an edged tool of bone for this purpose, a fact which is somewhat suggestive, although the implement differs in shape from the celt. Celts with one side flat and the other beveled to an edge may have been used as adzes. From the worn and hammered appearance of the polls of some celts, it is possible that many of these implements were used as wedges in splitting wood, after constant manipulation in their chopping capacity had permanently dulled their edges.

The celts of this region are, as a general thing, poorly made, a pebble of suitable shape having an edge ground on it with little or no preliminary shaping. More rarely, however, they were carefully worked all over by pecking and polishing, as in the case of the grooved axe.

In type, aside from the general division of rough and worked celts, we may add that most celts in this region have slightly rounded polls, the bit broader than the butt, although some exceptions have been found. The forms are as follows: *a*, rough stone celts, pebbles with one end ground to an edge, but otherwise scarcely worked: and *b*, worked stone celts, which include the following:

1. Wedge-shaped, poll narrower than bit, and angles rounded; common.
2. Like number one, but with bit much broader than poll. Very rare.

Cross-section oval.

3. Like number one, but one side flat, other beveled at one end to make a cutting edge.
4. Like number two, but with cutting edge flaring, broader than body. "Bell mouthed type." Very rare.

North and west of this region, we find the Iroquois territory where most

worked celts are angular, having almost invariably a rectangular cross section and squared butt. Types 1 and 3 also occur, but the celt with the rectangular cross section seems most typical of the Iroquoian region. Many small celts, made of flat fragments or chips of stone, are also found in this area, and these could scarcely have had a use as chopping tools.

In the Niagara watershed and extending eastward as far as the Genesee valley, an angular adze-like form having a trapezoidal cross section occurs. It is found principally in what was the territory of the Attiwandaronk, Kah-

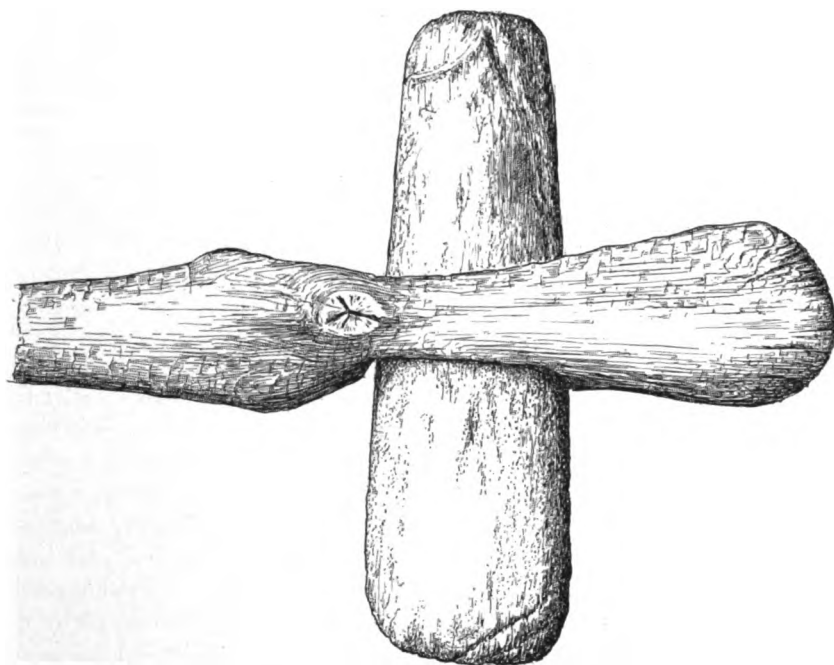


FIG. 13. A HAFTED CELT FROM A POND AT THORNDALE, DUTCHESS CO. N. Y.

Length of celt 16.6 cm.

Kwah, or Neutral Nation (an Iroquoian tribe, early annihilated by the Five Nations). It also occurs, as has been stated, on the sites of villages of the Iroquois proper, but is not abundant. South of the Iroquois in central Pennsylvania, another form which does not occur in this region is the chipped celt, usually of flint or other hard stone. This form is, however, frequent in the country about the headwaters of the Delaware.

In the "American Anthropologist," Vol. 9, No. 2, p. 296 *et seq.*, Mr. C. C. Willoughby has figured and described the celts of the New England

region with remarks on the methods of hafting employed. These seem to be two in number, and consist, in the case of the larger forms, of setting the blade through a hole in the end of a club-like handle, the butt or poll projecting on one side and the blade on the other as in Fig. 13, found in the muck of a pond bottom at Thorndale, Dutchess County, New York, a region once in the Mahican territory. Smaller celts were set into a club-like handle, the butt resting in a hole or socket.

Adzes. These seem to be of two kinds, the first and most simple being celt-like, but flat on one side, the other side being beveled to an edge on one side. The second form differs in having a groove, which is not infrequently ridged. Occasionally, adzes with two parallel grooves occur. They were probably hafted by taking a stick at one end of which projected a short arm at right angles with the shaft, laying the flat side of the blade against this arm and binding it on with sinew, thongs or withes. The groove, of course, was of aid in securing the blade to the handle. Adzes of stone, hafted in this manner, have been obtained on the North Pacific coast. The celt adze seems not uncommon, but the grooved adze is rare, neither form being nearly so abundant as in the New England region.

Gouges. The stone gouge is rare, and seems always to be a plain, single-bladed affair without the transverse grooves so frequently seen in New England specimens, and hereabouts is always easily distinguished from the adze. Less than half a dozen specimens have been seen by the writer from this entire area, although probably quite as much work in wood was done by the New York coastal Algonkin as by the New England Indians.

Pestles. The long pestle occurs throughout the region of the Coastal Algonkin of New York, but is nowhere as abundant as in New England. They seem always to have been used with the wooden block mortar hereabouts, and are mentioned by the early writers as part of the household equipment of the natives. They do not seem to have been used by the Iroquois to the north and west of this area either in early or later times. The wooden pestle of dumb-bell shape seems to have been preferred by them. The latter is used by the Canadian Delaware and may have taken the place of the long stone pestle to a great extent in this region.

Mullers, Grinders, and Polishing Stones. These are frequent, and consist merely of rounded pebbles, shaped and worn by use, probably most often in crushing corn. They are mentioned by De Vries as being used by the Indians with a flat stone slab for grinding corn when traveling. Some seem to have been used for polishing stone implements, but it seems hard to draw the line, as the appearance gained from friction would be quite similar. Such mullers and their attendant slabs, used for preparing corn meal have been collected within a few years in use among the Oneida Iroquois of New York, one specimen being in the American Museum collection.

Sinew Stones. These are pebbles showing grooves along the edges, popularly supposed to have been worn there by rubbing thongs and sinews across the edges to shape them. They occur generally, but are not common.

Stone Mortars. These are common, but rather local, some sites having none at all, and others a good many. One locality on Staten Island is notable for the numbers found there, whereas they are rare elsewhere in that vicinity. They may be divided into the following types:

1. Portable mortar, hole on one side.
2. Portable mortar, hole on both sides (New Jersey type).
3. Portable slab mortar or metate, used on one or both sides.
4. Boulder mortar, one or more holes, immovable.

The first two types are the most abundant, the third is not uncommon; but the fourth is very rare, only one or two being reported. As above stated, De Vries claims that the portable mortars were used in bread-making, while the Indians were traveling, but certainly the majority of those found are far too heavy for this purpose.

Pigments and Paint-cups. Fragments of pigments such as graphite and limonite, showing the marks of scratching with scrapers, are found, which have apparently supplied the material for painting. Worked geodes are common on many sites. These show traces of chipping in some instances and may have been paint cups. There is a tiny pestle-shaped pebble in the Museum collection from Westchester County, which is said to have been found with a geode of this type. The popular theory is that such geodes were used as "paint cups" and this seems probable.

Stone Plumets. These are very rare, in contrast to their abundance in the New England region. They consist usually of small worked egg-shaped stones, grooved at one end, probably for suspension. The writer has seen but one from this area. Their use is problematic.

Semilunar Knives. Knives of rubbed slate, similar in appearance to the "ulu" or woman's knife of the Eskimo are found, though rarely, in this region. While sometimes ascribed to Eskimo influence or contact, it is possible that this form (which occurs throughout New England), judging by its distribution, may have been native to the eastern Algonkin also. The eastern Cree still use knives of this type as scrapers. Like most other forms common in New England, it is less abundant in the southern part of this area.

Stone Beads. Various pebbles generally perforated naturally are to be found on some sites, and may or may not have been used as beads or pendants. On Staten Island, at Watchogue, Mr. Isaiah Merrill once owned a number of square beads of pinkish steatite (?), all but one of which have been lost, and which he claims were found on his farm.

POLISHED STONE ARTICLES.

Gorget. Two types of the gorget occur. These are the single-holed pendant form, which is the less abundant of the two, and the double-holed type. The latter is flat, rectangular in shape and generally well polished. It usually has two perforations a short distance from the middle. The modern Lenapé of Canada claim to have used these as hair ornaments. Probably the two-holed variety is typical of the Algonkian peoples of this region, the single-holed form being on the other hand, the most abundant on old Iroquoian sites. Specimens of the latter have been obtained in use among the Canadian Iroquois, and some of them are in the Museum collections.

Amulets. Certain problematic articles of the "bar" and even "bird amulet" type have been found, but these are probably exotic in origin and are not characteristic of the archaeology of the region in question.

Banner Stones. These beautiful polished stone implements of unknown use may be divided into three great classes, with several sub-types as follows:

1. Notched banner stones.
2. Grooved banner stones.
 - a. Groove on both sides.
 - b. Groove on one side.
3. Perforated banner stones.
 - a. Plain.
 - b. Butterfly.

All three types seem equally abundant, but the notched banner stones appear to be the oldest form and occur under circumstances pointing to great relative antiquity. They are found, however, on the more recent sites as well. Both notched and grooved banner stones are usually more rough in appearance than the perforated type, and the writer has never seen a polished specimen of the first class. On the other hand, the grooved variety frequently exhibits the high degree of finish characteristic of the perforated forms. Banner stones grooved only on one side are less common than the other forms. While the latter class is generally made of slate, steatite or some similar soft and easily worked material the notched and grooved forms, especially the former, are often formed either from naturally-shaped pebbles or chipped roughly into shape. Implements, usually naturally-shaped stones with little working, without notches, grooves or perforations, but greatly resembling the notched and grooved banner stones in shape, are not infrequently found on aboriginal sites hereabouts and may have served as banner stones. There seem to be neither records nor plausible theories as to their use.

Pipes. Stone pipes, invariably made of steatite, are very rare. Four types have been noted as follows:

1. Monitor or platform pipe, platform not projecting before the bowl.
2. Monitor or platform pipe, platform projecting before bowl, with or without tiny carved stem or mouthpiece. Of the latter, one specimen is known.
3. Trumpet-shaped stone pipe.
4. Rectangular stone pipe, human face carved on front of bowl.

It may be remarked that more stone pipes have been reported from the Indian cemetery at Burial Ridge, Tottenville, Staten Island, than from all the rest of the area put together. The second and third types are represented by one specimen each from Burial Ridge and from nowhere else in this region. Four or five pipes of the first class have been found there as well. The last class is represented by a single specimen obtained by Mr. W. L. Calver at Inwood, Manhattan Island. Undoubtedly the clay pipe was the most common form used in this locality.

Steatite Vessels. These are not at all abundant, though occurring almost everywhere. They were doubtless all imported from New England, as there are no steatite quarries within the range of the New York Coastal Algonkin. The single form found is that common in the east, an oblong, fairly deep vessel with a lug, ear or handle at each end (Fig. 14j). Occasionally, such vessels are ornamented by rude incisions along the rim.

ARTICLES OF CLAY.

Pottery Pipes are common everywhere. They are usually manufactured of a better quality of clay than that used for vessels, and bear fairly similar designs. They are susceptible of division into the following classes:

1. Straight pipe, bowl expanding slightly.
2. Bowl much larger than stem, leaving it at an angle of forty-five degrees. Stem round.
3. Same as number 2, but stem angular and much flattened.
4. Effigy pipes, (represented by a pottery human head apparently broken from a pipe bowl, obtained by Mr. M. R. Harrington at Port Washington, Long Island).

The straight pipe seems to have been obtained only on Staten Island on the north shore in the region occupied by the Hackensack. While nowhere as abundant as upon the Iroquoian sites of central and western New York, the clay pipe is rather common and is a prominent feature in the coast culture of New York (Fig. 15a). It is more abundant perhaps in the southern part

of the area, but this may well be due to the fact that data from this region are more easily accessible. The triangular-stemmed "trumpet" pipe so common on the Iroquoian sites is unknown in this region.

POTTERY VESSELS.

The pottery of this region may all be considered as being either the native Algonkian in type or showing Iroquoian influence with a third and intermediate variety. Algonkian vessels may be divided into the following groups according to shape:

1. Conical, pointed bottom, slightly swollen sides, circumference largest at the mouth, — the typical Algonkian pot of this area, Fig. 14a.
2. Like number 1, but much rounder and broader, Fig. 14b.
3. Bottom pointed, sides slightly swollen, neck slightly constricted, Fig. 14c.
4. Identical with number 2, except that just below the beginning of the neck, occur small raised lugs, ears or handles. This is rare from this area, Fig. 14d.
5. Rounded bottom, somewhat constricted neck, lip sometimes flaring, or even turning down and back, Fig. 14e.

The intermediate types are as follows:

6. Rounded bottom, constricted neck, narrow raised rim or collar, Fig. 14f.
7. Like number 6, but with sides more elongated and bottom more oval than round, heavier collar, generally notched angle, with or without a series of small humps or projections at intervals, Fig. 14g.

The Iroquoian types are as follows:

8. Mouth rounded, collar or rim heavy, with humps or peaks at intervals, angle notched, neck constricted and bottom rounded; can stand by itself, an unknown feature in local Algonkian vessels, Fig. 14h.
9. Same as number 7, but with mouth square, and humps at every angle. Much less common than the preceding, Fig. 14i.

In size, the vessels range from small toy-like pots to jars of very large capacity. In general they appear to have been made by the coil process, and are tempered with pounded stone or fine gravel, mica or burned or pounded shell. Sherds showing tempering by fibre or some other substance that disappeared in firing are rarely found. When vessels were cracked or broken, a series of holes was bored opposite each other on either side of the break and the parts laced together, rendering the vessel capable of storing dry objects, at least.

Life forms are exceedingly rare in local ceramic art. From Manhattan Island and Van Cortlandt Park, there come a number of specimens showing incised human (?) faces. This is not an uncommon form on Iroquoian sites in central and western New York. On the Bowman's Brook site at Mariner's Harbor, Staten Island fragments of a typically Algonkian pot were obtained which bore at intervals, rude raised faces. With the sole exception of a rather well-modeled clay face, apparently broken from the

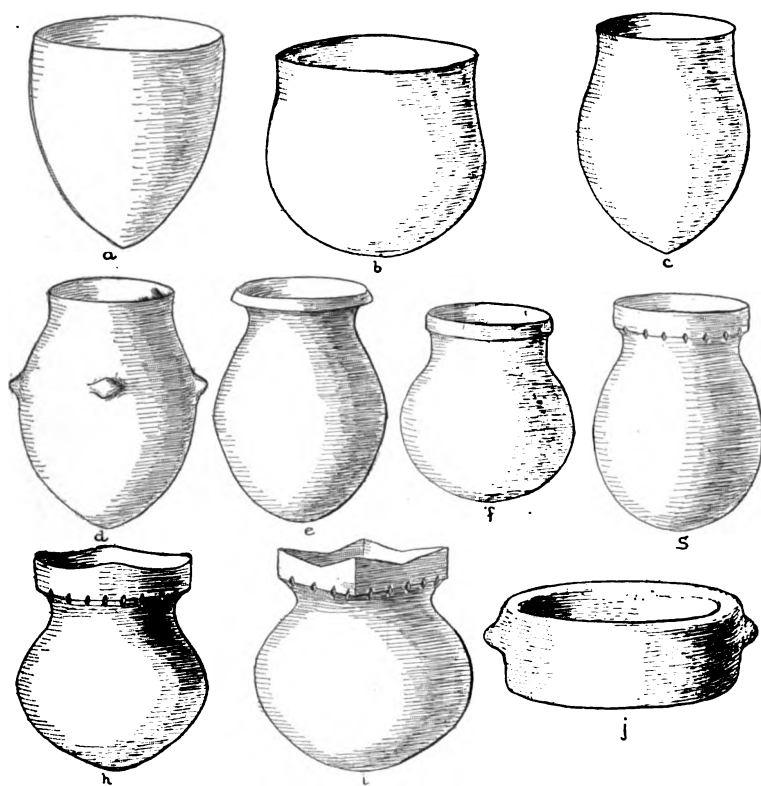


FIG. 14. POTTERY FORMS OF THE COASTAL ALGONKIN.

bowl of a pipe (Fig. 15b) found at Port Washington, Long Island, by Mr. M. R. Harrington, this brief statement concludes the list of pottery life forms reported from this area, although others may yet be found here, since some interesting objects have been collected in immediately adjacent territory.

The forms of decoration consist of stamping with a stamp, roulette or paddle, and incision (Figs. 16 and 17.) Occasionally, but very rarely,

stucco work occurs. Under stamping we can enumerate the following processes:

1. Impression with the rounded end of a stick (rare).
2. Impression with the end of a quill, or hollow reed, leaving a circular depression with a tiny lump or nipple (rare) in the center.
3. Impression with a section of a hollow reed, making a stamped circle (rare).
4. Impression with finger nail (doubtful, but perhaps used on some sherds from Manhattan Island).
5. Impression of the edge of a scallop shell.
6. Impression with a carved bone, antler or wooden stamp.
7. Impression of a cord-wrapped stick.
8. Impression with roulette.

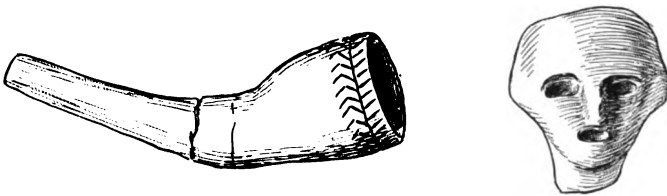


FIG. 15. TYPICAL ALGONKIAN POTTERY PIPE AND FRAGMENT OF AN EFFIGY PIPE FROM PORT WASHINGTON, L. I.

Under the head of decoration by incision we can enumerate the following:

9. Incised decoration, probably made with a stick.
10. Incised decoration, possibly made with a flint object (only one specimen at hand).

The paddle was frequently used to finish the sides and bottom of the pot by imparting an appearance of pressure with fabric when the clay was wet.

11. Stucco. Occasionally, ridges of clay placed on the rim for ornament appear to have been added after the shaping of the vessel.

Ornamentation is usually external, and vessels, either Algonkian or Iroquoian, are rarely ornamented below the rim, although occasionally the designs run part way down the side in the case of the Algonkian forms. Where decoration has been applied by one of the stamping processes, and more rarely by incision, it is sometimes continued over the lip or rim for an inch or less on the inside. This only occurs in the typical Algonkian forms, and is never seen when incised ornamentation is used. The rims of Iroquoian vessels are never ornamented on the interior, nor is stamping so frequently practised on vessels of this class. The intermediate forms, at least the first of the two mentioned, are frequently ornamented on the interior

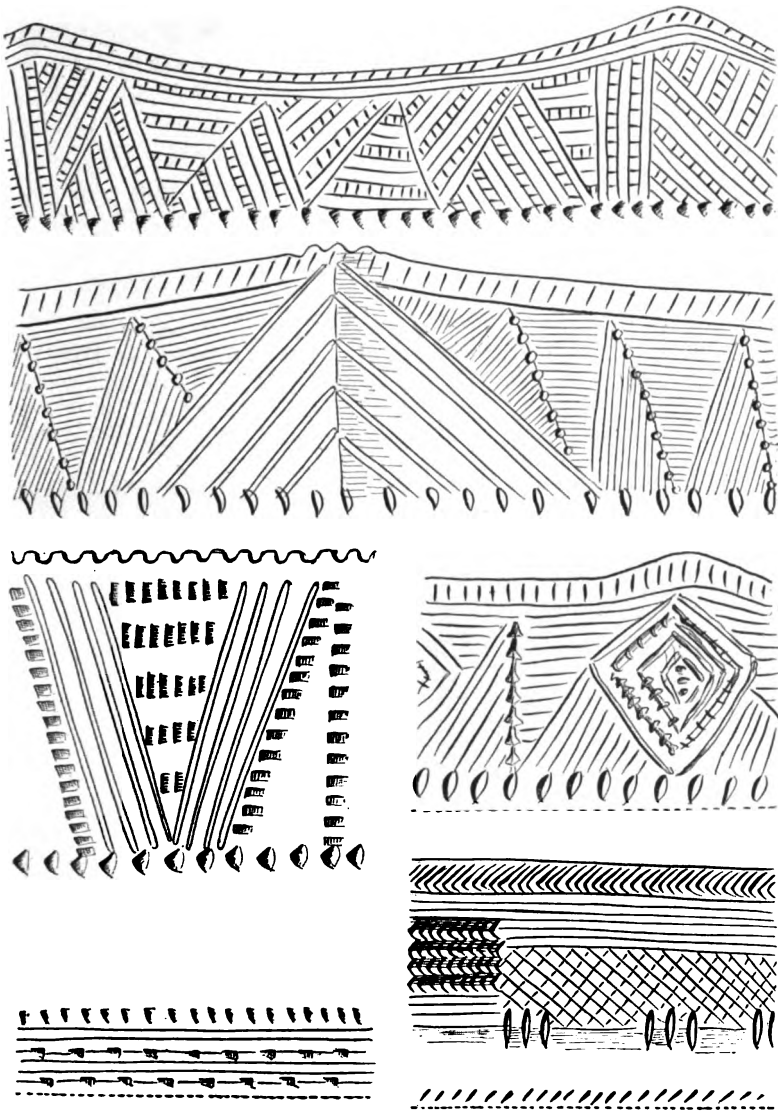


FIG. 16. INCISED DESIGNS FROM POTTERY VESSELS.

a, *b*, and *d*, designs from Iroquoian vessels; *c*, design from an Algonkian vessel; *e*, design from a vessel of the Iroquoian type from a Connecticut rock-shelter, introduced here for comparison.

of the lip. This internal decoration is much more common in the southern portion of this area than elsewhere in the vicinity.

In design, we must of course, give up all thought of trying to obtain symbolism, if such there were, for there are no sources now left upon which to base our assumptions. Certain conventional types of decoration seem to have been in vogue, usually consisting in rows of stamped or incised parallel lines and much more rarely of dots regularly arranged in the same manner. Zigzag, chevron and "herring bone" patterns are the most common, but other angular forms occur, and rows of parallel lines encircling the vessel are sometimes to be found. Stamping and incision as decorative processes never seem to occur on the same vessel. Curvilinear decoration is exceedingly rare, and not enough material is at hand to show that patterns were used, possibly these were scrolls of some form. On account of the lack of material, it cannot be determined whether the designs on the Algonkian



FIG. 17. INCISED DESIGNS FROM ALGONKIAN VESSELS.

vessels differ from those on the Iroquoian, except in a very general and unsatisfactory way.

The angle formed where the heavy rim or collar leaves the constricted neck of the Iroquoian vessel is almost invariably notched, and as such collars and angles do not occur on vessels of the true Algonkian type, this feature is necessarily absent from them. It is noticeable that Iroquoian vessels are usually decorated with incised designs, rather than stamped patterns.

Pottery is found abundantly on the majority of the sites in this district; but, while very much more common than in the New England area, it does not equal in abundance that from the Iroquois country. It is rarely found buried in graves with skeletons as in the Iroquoian area; when sometimes found in graves, however, it is usually at some distance from the human remains and apparently not connected with them. Whole or nearly whole vessels are exceedingly rare and the number of those found up to date may

easily be counted upon the fingers. Potsherds taken from pits or shell heaps, where they have not been exposed to the action of the weather, are often as thickly covered with grease as when they were broken and cast aside.

ARTICLES OF METAL.

Beads. Beads of native metal, consisting simply of pieces of hammered sheet copper rolled into small tubes, have been found, but they are very rare. Copper salts, but no objects, were found upon the bones, especially on those of the head and neck, of a child's skeleton at Burial Ridge, Tottenville, Staten Island, which seemed to predicate the use of copper beads. A great many beads of *olivella* shell, some of them discolored by copper salts, were found about the neck of the skeleton. A single celt of copper is said to have been found in Westchester County, probably on Croton Neck, slightly above the limit of the territory treated in this paper.¹

ARTICLES OF SHELL.

Wampum. Objects of shell are not at all common, and notwithstanding the coast region of New York was one of the best known localities for wampum manufacture on the continent, wampum beads are almost unknown from local sites. With the exception of completed beads, most of which may have been shipped into the interior, wampum may be found in all stages of manufacture. We refer to the white wampum, for traces of the "black" (blue) wampum made from the hard clam or quahog are so far not reported. The process of manufacture may be shown by shells with the outer whorls broken away in steps until the innermost solid column is reached, ground and polished at the end, and needing only cutting off into sections and perforations to make the finished white wampum bead. These do not occur on all sites, though they have been found here and there throughout the region. Ninety-six conch shells with the outer whorls broken entirely away were found in a grave at Burial Ridge, Tottenville, Staten Island, about the head and neck of a skeleton.

Pendants. Occasionally oyster and clam shells, found unworked save for perforations in them, may have been pendants or ornaments, but certainly have little æsthetic value.

Scrapers. Clam shells seem to have been used as scrapers and some are

¹ Native copper occurs in the New Jersey trap ridges, within a few miles of New York City, an important source in Colonial times being near Boundbrook 30 miles from the lower end of Manhattan Island. Boulders of native copper occur in the glacial drift. EDITOR.

occasionally found with one edge showing the effect of rubbing and wearing. These are rare, however. Some may have been pottery smoothers. Clam shells have been reported which contained central perforations and were identical in appearance with some shell pottery scrapers and smoothers collected by Mr. M. R. Harrington among the Catawba. Contemporary writers mention the use of knives made of shell.

Pottery Tempering. This was sometimes done with calcined and pounded shells, but was uncommon, considering the abundance of the material at hand. Pounded stone or gravel seems to have been more favored.

Pottery Stamps. The corrugated edge of a scallop shell was frequently used as a stamp for pottery, as may be seen by examining the potsherds from this region.

ARTICLES OF BONE AND ANTLER.

Objects of bone and antler, while perhaps more abundant here than in New England, are far less plentiful in form and number than in the Iroquoian area. Cut bones are frequent in most shell pits and heaps. They were cut by grooving the bone partly through on all sides, probably with a flint knife, and breaking.

Bone Awls. These utensils are the most common of all bone articles in this region and are found in almost every part of the area. Some are merely sharpened slivers, but others show a considerable degree of work, and are well finished and polished. They are usually made of deer or other mammal bone, but sometimes from the leg bones of birds.

In some instances, the joint of the bone is left for a handle, but this is often cut off. Grooved, perforated or decorated bone awls are extremely rare in this region. While it is generally considered that these bone tools were used as awls in sewing leather, as by modern shoemakers, nevertheless, they may have served as forks in removing hot morsels from the pot or for a number of other purposes. The latter supposition is supported by the abundance of bone awls found in some shell pits. The northern Cree of the Hudson Bay region use a similar bone implement as the catching or striking pin in the "cup and ball" game.

Bone Needles. These are rare, but found in most localities. They are generally made of the curved ribs of mammals and are six or eight inches long, or even longer. They are generally broken across the eye, which is usually midway between the ends. A few with the perforation at one end have been reported.

Bone Arrow Points, usually hollow and conical in shape, have been found,

especially at Tottenville, Staten Island, in the Burial Ridge. They are rather rare, but this may be due to the fact that conditions are not suitable for their preservation in most localities. Others are flat and triangular in shape.

Harpoons. No actual barbed bone harpoons, such as occur in the Iroquois country have been reported from this region; although the writer has seen what appeared to be part of one from Shinnecock Hills, Long Island, whence comes a harpoon barb of bone, found by the writer, now in the Museum collection, which was apparently made to tie to a wooden shaft. While neither of these forms seems to occur within this region, several naturally barbed spines from the tail of the sting-ray, found on the Bowman's Brook site, at Mariner's Harbor, Staten Island, may have been used as harpoons or fish spears, for which purpose they were admirably suited by nature. Long, narrow, chipped stone arrow-heads are generally called "fish points", but they do not seem peculiarly adapted for this purpose and the name is probably a misnomer. No bone fish hooks are reported from hereabouts, though suggested by early writers.

Bone Beads and Tubes. While so abundant on Iroquoian sites, tubes and beads made of hollow bird or other animal bones, polished and cut in sections, are very rare here.

Draw Shaves, or Beaming Tools, made of bone, and probably used for removing the hair from skins, were made by splitting the bone of a deer's leg, leaving a sharp blade in the middle with the joints on either end as handles. The writer has seen none from this immediate region, but they are reported by Mr. M. R. Harrington. A number were obtained for the Museum by Mr. Ernst Volk in the Lenapé sites near Trenton, New Jersey. An implement, evidently made of the scapula of a deer, and perhaps used as a scraper, was found in a grave at Burial Ridge, Tottenville, Staten Island, by Mr. George H. Pepper.

Worked Teeth. Perforated teeth of the bear, wolf and other animals, so abundant on Iroquoian sites never seem to be found here. Beavers' teeth, cut and ground to an edge, occur, and may have been used as chisels, or primitive crooked knives, or both, as they were till recently by some of the eastern Canadian Algonkin. Other cut beaver teeth may have served as dice or counters in gaming.

Turtle Shell Cups. These are common, and consist merely of the bony carapace of the box turtle (*Tranene caroline*), scraped and cleaned inside, the ribs being cut away from the covering to finish the utensil for use.

Antler Implements. Deer antlers and fragments of antler, worked and unworked, occur in all shell heaps and pits. When whole antlers are found, they usually show at the base the marks of the axe or other implement used

to detach them from the skull. Cut antler prongs, prongs broken from the main shaft and others partly hollowed and sharpened show the process of manufacture of antler arrow points. These are characteristic of this area and are usually conical in shape, hollowed to receive the shaft, and with one or more barbs; not infrequently, however, they are diamond-shaped in cross section. The shaft fitted into the hollow socket as in the case of the conical bone arrow points. A large number were found in and among the bones of human skeletons in a grave at the Burial Ridge, Tottenville, Staten Island.

Cylinders, neatly cut and worked all over, or cylindrical tines made of deer antler only cut and rounded at the ends, are not infrequent, and were probably used as flaking tools in making and finishing arrow points by pressure. One broken cylinder or pin, found on the Bowman's Brook site, Mariner's Harbor, Staten Island, had a rounded, neatly carved head. This specimen, however, seems to be unique.

Pottery stamps, perhaps of antler or bone, but which may be of wood, seem to have been used, judging by the decorations of many pottery sherds. A pottery stamp, carved from antler, was found slightly east of this region, at Dosoris, Glen Cove, Long Island, by Mr. M. R. Harrington, and is now in the Museum collection.

TRADE ARTICLES.

In spite of the frequent mention by old writers of barter of European for Indian goods, the amount of trade material found is small indeed. While it is abundant in the Iroquoian area, all that has ever been found here consists of a few round-socketed iron tomahawks, iron hoes, brass or copper arrow points of various styles, a little porcelain, a few glass beads, Venetian and plain, and some old pipes, notably those stamped "R. Tippet" on the bowl. All these articles are very rare here, and for this no adequate explanation can be given.

RÉSUMÉ.

This area was inhabited during historic times by the following tribes:¹

A. The Lenni Lenapé, or Delaware, ranging from the Raritan River, including Staten Island, to Saugerties on the west bank of the Hudson.

¹ On the map (Fig. 18), these tribes are shown together with the Long Island and other neighboring tribes as indicated by Beauchamp in the map accompanying his "Aboriginal Occupation of New York," New York State Museum, Bulletin 32, Albany, 1900.

Raritan or Assanhican.
 Hackensack.
 Tappan.
 Aquakanonk.
 Haverstraw.

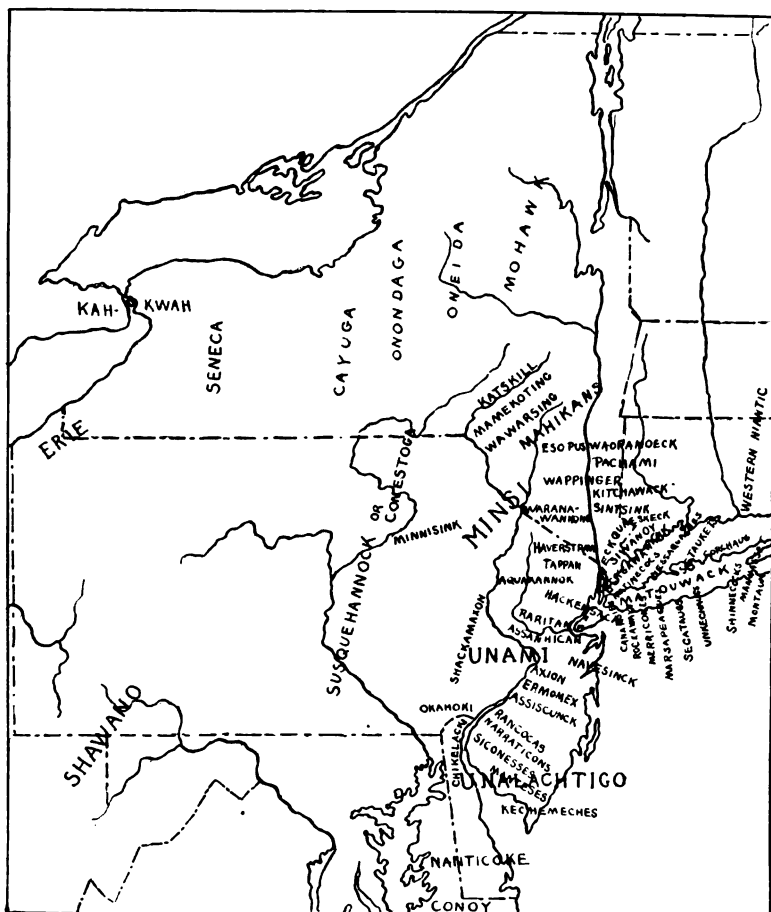


FIG. 18. MAP SHOWING THE LOCATION OF THE NEW YORK COASTAL ALGONKIN AND THEIR NEIGHBORS.

Waranawankong.

B. The Wappinger Confederacy ranging along the east bank of the Hudson, eastward to Connecticut, from Manhattan Island.

Rechawawank or Manhattan.

Siwanoy.

Weckquaskeck.

Wappinger.

C. Montauk or Matouwack Confederacy.

Canarsie.

These tribes were surrounded on all sides by neighbors of the same stock, who differed somewhat in their language and culture. On the south and west, lay the Lenni Lenapé, or Delaware proper; on the north, the Manhattan, and on the east the New England tribes. Almost without exception, these natives were displaced early in the history of this country, and have been long since expatriated or exterminated. A very few mixed bloods may yet be found on Staten Island, Long Island and in Westchester County, but their percentage of Indian blood is extremely low.

The remains of aboriginal life now to be found, consist of shell heaps, occurring at every convenient point along the coast, on the rivers, and, more rarely, inland; shell, refuse, and fire pits; camp, village and burial sites; and rock and cave shelters. With one prominent exception,¹ few or no relics have been found in graves. The typical interment was of the flexed variety, but bone burials are not infrequent.

Dog skeletons complete and intact, bearing the appearance of having been laid out, are sometimes found buried in separate graves. Some writers have supposed that these individual dog burials are the remains of "white dog feasts" or kindred practices, because the Iroquois even up to the present day hold such ceremonies. The white dog is entirely cremated by the Iroquois, and so far as we have been able to find out, there is no record of such occurrences among the coastal Algonkin; hence, there seems no reason to attribute this custom to them since other Iroquois traits were so infrequent. It seems more probable that such burials are simply those of pet animals, interred as we to-day honor a faithful dog.

Occasionally, the skeletons of dogs and rarely of other animals have been found in graves associated with human bones. The finding of arrow-heads among the ribs of some of these, and other circumstances, seem to point to a practice of killing a favorite animal on the death of its owner to accompany or protect the spirit of its master on the journey to the hereafter.

From their appearance and position, many graves seem to indicate that the dead may sometimes have been buried under the lodge, especially in time of winter, when the ground outside was frozen too hard to permit grave digging. Others under the same circumstances seem to have been buried in refuse pits. The remains further indicate that "feasts of the dead," were

¹ Burial Ridge, Tottenville, Staten Island.

also held at the time of the interment, judging by the quantity of oyster shells and animal bones in and near the graves. Some graves have rows or layers of oyster shells, with the sharp cutting edge upward, placed above the bodies as if to prevent wild animals from disinterring and devouring the dead.

An interesting fact, brought to light by the rock-shelter work of Messrs. Schrabisch and Harrington in their explorations in New Jersey and Westchester County, New York, is that in the lowest and oldest refuse layers of these shelters pottery does not occur. It would be ill advised to infer from this that the earliest occupants were peoples of another culture from the surrounding village dwellers, as the other artifacts found are quite similar to the implements of the latter. Many reasons for this lack of pottery, such as the more easy transportation of vessels of bark or wood through the mountains and hills, suggest themselves, though they are more or less nullified by the presence of pottery in the upper layers. The upper layer, however, may have been made during the period when the natives were being displaced by Europeans and at the same time subjected to Iroquoian raids, when the villages would naturally be abandoned from time to time, for refuge among the cliffs and caves of the mountain fastnesses.

It has been suggested that the rock and cave shelters are remains of an older occupation by people with or without the same culture as the later known savages. The nature of the finds does not support this view, for the specimens obtained are often of as good workmanship as the best to be found in the villages and cemeteries of the latter, while pottery, on the other hand, occurs on the oldest known Algonkian sites. It seems most probable to the writer that, like the shell heaps, the rock and cave shelters form but a component part, or phase, of the local culture, perhaps a little specialized from usage and environment, but contemporary with the villages, shell heaps and cemeteries of the lowlands.

Mounds and earthworks do not occur in the region under consideration, nor does it appear that most of the Indian villages here were fortified, unless they were slightly stockaded. A number of instances of this are known historically, however, and a few earthworks occur just beyond this area.¹

The remains found do not bear any appearance of very great geological antiquity. In a few instances, rock-shelters, shell heaps and village sites seem to possess a relative antiquity; but the oldest known remains, in every case, may be placed as Algonkian with considerable certainty. No paleoliths have been reported, and it would seem from the comparative lack of antiquity of the remains that the natives could not have lived in this region for many centuries before the advent of the whites. The accounts of con-

¹ An earthwork at Croton Point on the Hudson has been excavated by Mr. M. R. Harrington for the American Museum.

temporary writers prove conclusively that these archæological remains, if not those left by Indians found here by the early Dutch and English settlers, must have been from people of very similar culture. In culture, the local Indians were not as high as the Iroquois, nor perhaps as the Lenapé or Delaware proper from whom they sprang; but they compare very favorably with the New England tribes. Absence and scarcity of certain artifacts such as steatite vessels, the long stone pestle, the gouge, adze and plummet, and the abundance and character of bone and pottery articles show them to have been intermediate in character between the Lenapé on the south and west, and the New England tribes on the east and north; and consultations of the old European contemporaries show that this was the case linguistically as well as culturally. Examination of the remains also shows that the influence of the Lenapé on the west, and of the New England peoples on the east, was most strongly felt near their respective borders. Iroquoian influence was strong, as evinced by the pottery, and there is also documentary evidence to this effect. Finally, as is frequent throughout most of eastern North America, the archæological remains may be definitely placed as belonging to the native Indian tribes who held the country at the time of its discovery or to their immediate ancestors.

Historical Notes on the Indians of Manhattan.¹

Historical references to the Indians who occupied this territory in the early days are very confusing and contradictory. There seems to be a great deal of trouble in the use of the word Manhattan. Van der Donck in 1633 classified the Indians of this section by language, and said, "Four distinct languages — namely Manhattan, Minqua, Savanos and Wappanoos" — are spoken by Indians. "With the Manhattans we include those who live in the neighboring places along the North River, on Long Island, and at the Neversinks."² It is probable that "it was . . . this classification by dialect that led the Dutch to the adoption of the generic title of Manhattans as the name of the people among whom they made settlements."³ De Laet wrote that "on the east side, on the mainland, dwell the Manhattans," and in 1632 Wassenauer adds that they are "a bad race of savages, who have always been unfriendly to our people" and that "on the west side are the Sanhikans, who are the deadly enemies of the Manhattans."⁴ "When Hudson returned from his trip up the River which now

¹ First paragraph by James K. Finch.

² Wilson, *Memorial History of N. Y.*, Vol. I, p. 34.

³ *Ibid.*, p. 49.

⁴ *Ibid.*, p. 34.

bears his name, he was attacked by Indians in birch or dug-out (?) canoes at the mouth of Spuyten Duyvil Creek. These Indians were a sub-tribe of the Wappingers or Wapanachki called the Reckgawawancs."¹ This name seems to have been given to the Indians who inhabited Manhattan Island, while the term *Manhattans* as already stated was a classification of dialect only. Rutenber says that the Reckgawawancs were named after their chief Rechgawac;² and the name also seems to have been applied to part of the island for Riker says that,— "The Indians still [in 1669] laid claim to portions of the Harlem lands, . . . one of the tracts being their old and favorite haunt Rechewanis, or Montagne's Point. The chief claimant was Rechwack, the old Sachem and proprietor of Wickquaskeek, who, as far back as 1639, had been a party to the sale of Ranachqua and Kaxkeek."³

Not much is known of their habits and customs beyond what has been inferred from the relics to be seen in this exhibit, but Mr. Bolton writes:

"We are not without detailed description of our primeval predecessors upon the island of Manhattan, for the Hollanders recorded many of their impressions of aboriginal peculiarities. We may assume that they possessed the usual characteristics, the stolid demeanor, the crafty methods, and revengeful nature of the Indian, all of which were exhibited in their dealings with the White intruders. These local bands appear to have had, in addition, some particular local habits. They painted their faces with red, blue, and yellow pigments, to such a distortion of their features, that, as one sententious Dominie expressed it, 'They look like the devil himself.' Their dependence on supplies of game and fish caused their removal from one place to another, semi-annually, and we read of their removal to a summer 'hunting-ground' in Westchester, whence the band returned to 'Wickers Creek,' for the winter shelter, and to resume their occupation of oystering and fishing in the Harlem and Spuyten Duyvil Creek.

"As for dress, 'They go,' said Juet, 'in deerskins, loose well-dressed, some in mantles of feathers, and some in skins of divers sorts of good fures. They had red copper tobacco pipes, and other things of copper they doe weare about their neckes.'

"No copper objects have been found in upper Manhattan, probably their metallic stock was bartered away with the early colonists, for in 1625, De Laet described their use of 'Stone pipes for smoking tobacco.'

"As regards their food, the evident abundance and size of the local oyster shells shows that they possessed in them a ready source of subsistence. As soon as Hudson's ship reached the neighborhood of Greenwich, where the

¹ *Ibid.*, p. 46.

² Rutenber, *op. cit.*, p. 78.

³ *History of Harlem*, p. 287.

Indian Village Sappokanikan was located, the natives 'brought great store of very good oysters aboard, which we bought for trifles.' De Laet (1625) says, 'their food is maize, crushed fine and baked in cakes, with fish, birds and wild game.' Van der Donck and others wrote in 1649:

Their fare, or food, is poor and gross, for they drink water, having no other beverage; they eat the flesh of all sorts of game that the country supplies, even badgers, dogs, eagles and similar trash, which Christians in no way regard; these they cook and use uncleansed and undressed.

Moreover, all sorts of fish; likewise, snakes, frogs and such like, which they usually cook with the offals and entrails.

They know also, how to preserve fish and meete for the winter, in order then to cook them with Indian meal.

They make their bread, but of very indifferent quality, of maize, which they also cook whole, or broken in wooden mortars.

The women likewise perform this labor, and make a *apa* or porridge called by some, *Sapsis*, by other, *Duundare*, which is their daily food, they mix this also thoroughly with little beans, of different colors, raised by themselves; this is esteemed by them rather as a dainty than as a daily dish.

"Their weapons were, of course, the usual aboriginal bow, arrow, spear, club and tomahawk, though but a few years later, they had acquired from the settlers enough fire-arms to become exceedingly expert in their use. 'Now, those residing near, or trading considerably with the Christians, make use of fire-locks and hatchets, which they obtain in barter. They are excessively fond of guns; spare no expense on them, and are so expert with them, that in this respect they excell many Christians.' Many of their discarded neolithic weapons have been found, and these exhibit a wide variety of material and workmanship, indicating considerable acquisitions from other tribes and localities. Their household utensils included 'mats and wooden dishes,' and Juet refers to their 'pots of earth to dresse their meats in,' and speaks also of the women bringing 'hempe.' The character of the grass mats which the women wove is to be seen in the imprints made with such material upon the outer surface of some of the local pottery. They also made the grass baskets, often referred to in early records, as 'napsas.' The pots of earth were the large earthenware vessels made by the Indian women, on the decorations of the rims and upper portions of which these poor creatures expended all their ingenuity and sense of art.

"Of these objects, there remain a number of interesting examples discovered in upper Manhattan, the most complete, and at the same time, most artistic, being the fine Iroquoian vessel discovered by Mr. W. L. Calver, on the south side of 214th Street, about 100 feet east of 10th Avenue, in the fall of 1906. The large vases found in broken condition in the cave at Cold Spring, are of the cruder and therefore, earlier design of the original

Algonkian inhabitants, who at a later period, probably by barter, and perhaps by inter-marriage, acquired or learned the art of Iroquoian design and decoration.

"Of the period during which the race occupied this locality, we can only make conjectures. The extent and character of the shell heaps at Cold Spring and the pits and burials at Seaman Avenue, certainly indicate a settlement of large numbers or of considerable age. The ceremonial pits at 212th Street and certain remains of aboriginal feasting, such as fish bones and oyster shells, appeared to exist at a level below the graves of the slaves of the settlers, buried at that place.

"While these conjectures may carry back the period of occupancy to antiquity, the tools and weapons are all of the modern order, and no objects of true paleolithic character have been discovered, so that we have as yet nothing definitely reaching back into the remote ages of the most primitive mankind, although on Hunt's Point in the Bronx, at no great distance away from our island, a very interesting rude ax and a hammer were discovered by Mr. Calver in a gravel-pit, near the old Hunt burying-ground."

LOCATION OF ARCHÆOLOGICAL REMAINS ON MANHATTAN ISLAND.¹

The first field work done on Manhattan Island is of very recent date. Doubtless many articles of Indian manufacture and evidences of Indian occupation were found as the city grew up from its first settlement at Fort Amsterdam, but of these specimens we have very few records. The first specimens found which have been preserved, to the knowledge of those now interested in the subject, were found in 1855, and consisted of a deposit of Indian arrow-points found in Harlem during excavation for a cellar on Avenue A, between 120th and 121st Streets. Some of these are spoken of by James Riker² as being in the author's cabinet. Riker also speaks of shell heaps near here.³ The next specimens preserved were found at Kingsbridge Road (now Broadway) and 220th Street in 1886, and are in the John Neafie collection at the Museum. These consist of an arrow point and a few bits of pottery. The next work was begun in 1889 by Mr. W. L. Calver of this city, and has led to the discovery of much valuable material which has been preserved.⁴

¹ By James K. Finch.

² *History of Harlem* (1881), footnote, p. 137.

³ *Ibid.*, p. 366.

⁴ In the Spring of 1890 Mr. Edward Hagaman Hall began his investigations and at about the same time Mr. Reginald P. Bolton entered the field of local research. In many instances these gentlemen and Mr. Calver collaborated with valuable results. In the preservation of the traces of Indian occupation of Manhattan Island the American Scenic and Historic Preservation Society (formed in 1895 under the presidency of the late Hon. Andrew H. Green, but now under that of Dr. George Frederick Kunz) has done much pioneer work. EDITOR.

The following account of the work is taken mainly from Mr. Calver's note-book:

In the autumn of the year 1889, while exploring the heights of Bloomingdale (now called Cathedral Heights) for any relics that might have remained from the Battle of Harlem, Mr. Calver discovered one arrow point at 118th Street, east of Ninth Avenue, and immediately afterwards a circular hammerstone. On a later trip to the same locality, he found a small grooved axe or tomahawk.¹ In February, 1890, while hunting for Revolutionary relics in the vicinity of Fort Washington, he made a trip to the northern part of the Island in search of British regimental buttons, many of which were said to have been found in that vicinity. There he met an old acquaintance, Mr. John Pearce, a policeman then on duty there, by whom he was introduced to Mr. James McGuey, a youth residing in the vicinity of 198th Street and Kingsbridge Road. To Mr. Calver, Mr. McGuey presented several relics found by himself on camp sites and made an appointment to meet him early in March to explore for Indian remains. The same day, Mr. Pearce took Mr. Calver to be introduced to Mr. Thomas Reeve who resided near Kingsbridge Road and Isham Avenue, and, while crossing the orchard at Academy Street and Seaman Avenue, Mr. Calver saw that the ground was thickly strewn with shells which afterwards proved to be of Indian origin.

The first Sunday in March, Messrs. Calver and McGuey explored this part of the Island for Indian remains. At the junction of Academy Street and Prescott Avenue, they found an Indian potsherd whose importance Mr. McGuey seemed to realize, for, a week later, Mr. Calver met him again and was presented by him with a number of fragments of Indian ware. He assured Mr. Calver that he had found it by digging in an Indian graveyard. The two men dug again at this place, now known as "the Knoll," and found more pottery. They then went to Cold Spring, a point on the extreme northern end of the Island, and in a shell heap there they found more Indian work. Mr. Alexander C. Chenoweth, an engineer, then on the Croton Aqueduct, hearing of these discoveries, obtained a permit from the property owners and began to explore "the Knoll" for Indian remains. Having finished here, he went to Cold Spring and made some further discoveries. All his specimens were purchased in 1894 by the Museum, and some of them are now on exhibition.

Since this time, several interesting relics have been found and, as the work of grading streets and other excavation at this part of the Island are carried on, more relics will probably come to light. An account of the recent finds will be found in another part of this Guide, the time of this writing having been 1904.

¹ The writer found an arrowhead on South Field, in front of Columbia University Library, on September 30, 1904.

The only Indian remains left on the Island, so far as known to the writer, are situated at the extreme northern end at Inwood and Cold Spring. They consist of the co-called shell heaps or refuse piles from Indian camps, and three rock-shelters at Cold Spring. But we have evidence to show that this was not the only part of the Island occupied by the Indians. Mrs. Lamb¹ says that the Dutch found a large shell heap on the west shore of Fresh Water pond, a small pond, mostly swamp, which was bounded by the present Bowery, Elm, Canal and Pearl Streets, and which they named Kalch-Hook or shell-point. In course of time, this was abbreviated to Kalch or Collect and was applied to the pond itself.² This shell heap must have been the accumulation of quite a village, for Mrs. Jno. K. Van Rensselaer³ speaks of a castle called Catiemuts overlooking a small pond near Canal Street, and says that the neighborhood was called Shell Point. Hemstreet refers to the same castle as being on a hill "close by the present Chatham Square," and says that it had once been an "Indian lookout."⁴ Excavations at Pearl Street are said to have reached old shell banks. "The Memorial History of New York"⁵ says that a hill near Chatham Square was called Warpoes, which meant literally a "small hill."⁶ According to the same authority, "Corlear's Hoeck was called Naig-ia-nac, literally 'sand-lands.' It may, however, have been the name of the Indian village which stood there, and was in temporary occupation." This is the only reference we have to this village, but there are references to another on the lower end of the Island. Janvier⁷ says that there was an Indian settlement as late as 1661 at Sappokanican near the present Gansevoort Market. According to Judge Benson,⁸ Sapokanican was the Indian name for the point afterwards known as Greenwich. "In the Dutch records references are made to the Indian village of Sappokanican; and this name... was applied for more than a century to the region which came to be known as Greenwich in the later, English, times. The Indian village probably was near the site of the present Gansevoort Market; but the name seems to have been applied to the whole region lying between the North River and the stream called the Manetta Water or Bestavaar's Kill."⁹ Benton says that the name of the

¹ History of New York City, p. 36.

² Mr. Edward Hagaman Hall, however, derives the name from "Kolk" or "Kolch" a word still in use in Holland and applied to portions of a canal or inclosure of water. The word also means "pit hole", which aptly describes the Collect Pond.

EDITOR.

³ Goede-Vrouw of Manahata, p. 39.

⁴ Hemstreet, Nooks and Corners of Old New York, p. 46.

⁵ Bulletin, N. Y. State Museum, Vol. 7, No. 32, p. 107, Feb., 1900.

⁶ James G. Wilson, op. cit., p. 52.

⁷ Evolution of New York.

⁸ N. Y. Historical Society Collection, S. II, Vol. II, Pt. I, p. 84, 1848.

⁹ Thos. A. Janvier, In Old New York, pp. 85-86.

village was Lapinican.¹ Going back to the old Dutch records might lead to finding the actual names and other data regarding these places.

Most of the specimens found on Manhattan Island, as already stated, come from the northern part. We have a few from the central portion, however. There are the arrow-heads spoken of by Riker, and in Webster Free Library there is a fine specimen of a grooved stone axe found at 77th Street and Avenue B. Mr. Calver has found an arrow-head at 81st Street and Hudson River and specimens from the site of Columbia College have been recorded.

Doubtless the northern part of the Island was inhabited for the longer period; but it is probable that all along the shore, wherever one of the many springs or small brooks, shown on old maps, emptied into the Hudson or East River, there were small, temporary Indian camps. It is likely that these camps were used only in summer, while the primitive occupant of Manhattan retreated to the more protected part of the Island, as at Inwood and Cold Spring, during the winter. Or it may be possible that, as Ruttenber² states, the villages on Manhattan Island were only occupied when the Indians were on hunting and fishing excursions, while their permanent villages were on the mainland. Bolton,³ however, says their principal settlement was on Manhattan Island.

Fort Washington Point. There is a small deposit of shells, on the southern edge of the point, in which the writer found some small pieces of pottery and a few flint chips, thus proving its Indian origin. This was probably a summer camp, as it was too exposed for winter use.

The Knoll. "The Knoll" was the name applied to a small rise of land, at the southwest corner of Dyckman Street and Sherman Avenue, which ran out into Sherman Creek from the eastern edge of the hill at that place. As already stated, Messrs. Calver and McGuey found potsherds here; then Mr. Chenoweth obtained permission of the property owners to make excavations. He found numerous fragments of arrow points and pottery in some refuse deposits from an Indian camp and also uncovered what were thought to have been "paved fireplaces." The newspapers of the time had accounts of the finds, with pictures of the pottery and other objects found.⁴ Mr. Chenoweth also uncovered a number of skeletons. It is stated that these graves were marked with rough headstones, and there are pieces of a coffin from here in the Terry collection in the American Museum, as are also a number of lead buttons found with one interment. Everything seems

¹ New York, p. 26.

² Indian Tribes of Hudson's River, p. 78.

³ History of Westchester County, p. 25.

⁴ New York Herald, January 14, 1894; also Illustrated American, September 19, 1901.

to point to these as being burials of early settlers, but Mr. Chenoweth holds that they are Indian. Several of the skeletons have been preserved in the Museum. A parallel condition to this at the Knoll was found at 211th Street and will be spoken of later. The Knoll site had undoubtedly been an ancient Indian camp. Probably Sherman Creek was open up to this point to Indian canoes.

Cold Spring. Cold Spring is situated at the extreme northern end of Manhattan Island on the southern shore of Spuyten Duyvil Creek. The Indian remains consist of three rock-shelters and three refuse heaps. The rock-shelter is a formation where the overhanging rocks form a small cave or shelter which the Indians used as a dwelling place. All their rubbish, such as oyster shells, broken pottery and broken arrow heads, were dumped near by, forming the so-called shell heaps. Messrs. Calver and McGuey explored the shell heaps; but Mr. Chenoweth was the first to suspect the existence of the shelters. There is only one which is likely to have been used as a dwelling place, the others being places where food was stored or shelters for fires used in cooking. These shelters face east, and are at the foot of the hill (formerly called Cock Hill) which forms the most northern part of Manhattan Island. The largest one was formed by several of the rocks breaking off the cliffs above and falling in such a manner that, by digging out some of the earth from beneath them, the Indians could make a small shelter. Probably it was occupied by one family, while the others lived in bark wigwams near by.¹ Another of the shelters is simply an excavation under the end of a huge fragment which also dropped from the cliffs above, and the third is a large crevice in the foot of these cliffs. When Mr. Chenoweth first explored them, all these shelters were completely filled with earth which had gradually worked its way in since their occupation, and much credit is due him for suspecting their presence. In them he found fragments of pottery and stone implements, together with the bones of turkey and deer. The largest of the refuse heaps is situated on a rise directly in front of these shelters. It consists of a layer of shells, in places several inches thick, found under a layer of fine loam, a black earth which has been deposited since the shells were scattered over the original sandy yellow soil. The sheltered position of this place made it an especially desirable camp site. The hills to the south and west formed a protection to the camp from winds, and by Spuyten Duyvil Creek access could be had to either Hudson or East River; while the Cold Spring, from which the place takes its name, furnished an abundant supply of fresh water.

¹ Memorial History of New York, Vol. I, p. 33, for picture of houses, and p. 39 for description.

Inwood Station Site. At the foot of Dyckman Street and Hudson River, there existed a large deposit of shells, most of which were removed when the rocks on which they lay were blasted away for grading the street. A few arrow points and bits of pottery, as well as several Revolutionary objects, were found here. Part of the deposit is still left on the northern shore of the small bay just below Inwood station. There are photographs of this deposit in the Museum.

Harlem Ship Canal. Formerly at 220th Street and Kingsbridge Road was a large deposit of shells on the westerly side of the road. This was destroyed when the ship canal was put through. As with the Inwood Station site, no systematic examination of this place was ever made. Mr. John Neafie found some potsherds here in 1886, and Mr. Chenoweth also has some potsherds from here.¹ Mr. Calver says that this was a large deposit, and that the peculiar thing about it was that the shells were so wedged and packed together that a pick would hardly penetrate them. They lay on the bare rock surface in cracks in the rock.

Harlem River Deposit. Mr. Calver says, "Extending from 209th Street to 211th Street on the west bank of the Harlem River and almost on a line with Ninth Avenue was another large deposit of oyster shells lying just beneath the top soil of the field. These shells had nearly all been disturbed by the plow and are interesting only for their color, which was red. Pieces of horn of deer and split bones of the same animal were common among the shells; but, in spite of the apparent antiquity of the deposit, there were, even in the lowest strata of it, some small fragments of glass which proved that either the whole mass had been disturbed or else the shells had been left during the historic period. There are several stone sinkers and hammerstones from this spot in Mr. Calver's collection and at the Museum.

Isham's Garden. This is a large garden about on the line of Isham Street and Seaman Avenue. The soil is white with small fragments of shells. A number of arrow points, flint chips, hammerstones, sinkers and a few bits of pottery have been found here. Mr. Calver has found several shell pockets with small deposits of pottery, etc., on the hill to the south of this garden.

Academy Street Garden. This is a small garden between Academy and Hawthorne Streets, running through from Seaman Avenue to Cooper Street. It was a British camp site during the Revolution, and a number of buttons, gun-flints and bullets have been found there as well as numerous Indian remains. It seems to have been the workshop for a red jasper-like stone of which numerous chips but no finished implements have been found. The shells at this point were first noticed by Mr. Calver in 1890. They may not all be of Indian origin, as some may be due to soldiers.

¹ John Neafie collection, 20-2558; Chenoweth, 20-3498.

Dog Burials found in 1895. In January, 1895, Mr. Calver found two interesting "dog burials." The first burial was unearthed at the summit of a ridge of soft earth at 209th Street, near the Harlem River. The ridge, which was about twelve feet high, had been partly cut away for the grading of Ninth Avenue. It was at the highest part of the hillock that a pocket of oyster and clam shells was noticed, from which a few fragments of Indian pottery which lay on the face of the bank had evidently fallen. The shells, upon inspection, were found to have served as a covering for the skeleton of a dog or wolf. Another burial was found on May 18th within fifty yards of the first burial. It had been covered with shells just as the first one, but had been disturbed by workmen. Mr. Calver says: "The two canine burials were situated at a point just without the borders of the Harlem River shell heap and were distinct from it. The shells were found to be matched, hence it was concluded that they were thrown in unopened or eaten on the spot. As the skeletons were intact and the bones uninjured, all probability of the animals having been eaten is disposed of." These burials are common in this vicinity. No satisfactory explanation of them has been given; but Mr. Calver thinks they were for some religious purpose, and suggests a relation to the "White Dog Feast" of the Onondaga of this State.¹ It is certain that the pockets were in many cases used as fireplaces.

Shell Pockets at 211th Street. In March, 1903, there was considerable excitement over the reported discovery of an Indian graveyard at 211th Street.² The graveyard proved to have been that of some slaves, and was situated on the western end of the rise between 210th and 211 Streets, on the eastern end of which is the old Neagle Burying Ground. This discovery was interesting because under the negro graves several shell pockets of undoubted Indian origin came to light. The workmen, in grading Tenth Avenue, cut into this hill to obtain material for filling, and uncovered the graves and pockets. It seems almost certain that the deposits were made some time ago; then the wind blew the sand over the deposits to a depth of four or five feet, and negroes later used this place as a burial ground. In support of this theory is the fact that the pockets were four or five feet under the surface, that the soil above showed no signs of having been disturbed, and that this rise is put down on the Government maps of this section as a sand dune.³ During the summer of 1904, Mr. Calver with Messrs. Hall and Bolton uncovered nine more pockets to the southwest of the graveyard.⁴ These pockets all seem to have been of the same period as the others, and

¹ N. Y. Herald, May 26, 1895.

² Evening Telegram, March 14, 1903.

³ New York Geologic Folio.

⁴ New York Tribune, Oct. 30, 1904, and New York Sun, Dec. 14, 1904.

all appear to have been on the original ground surface, although those farther up the hill were some four feet under the present surface. In one of these pockets, was found the complete skeleton of a dog¹; in another, a turtle shell; two others contained complete snake skeletons; while a fifth held the fragments of a small pottery vessel. The pockets were small, being about three feet in diameter and of equal depth, showing no signs of having first been used as fire places and then filled up, though charcoal was scattered among the shells. Almost all the relics from Van Cortlandt Park were found by Mr. James in pockets similar to these.

During Indian troubles in 1675, the Wickquaskeeks at Ann's Hook, now Pelham Neck were told "to remove within a fortnight to their usual winter quarters within Hellgate upon this island." Riker says, "This winter retreat was either the woodlands between Harlem Plains and Kingsbridge, at that date still claimed by these Indians as hunting grounds, or Rechawanes and adjoining lands on the Bay of Hellgate, as the words 'within Hellgate' would strictly mean, and which, by the immense shell-beds found there formerly, is proved to have been a favorite Indian resort."² A little later the Indians asked to be allowed to return to their maize lands on Manhattan Island and the Governor said that they, "if they desire it, be admitted with their wives and children, to plant upon this Island, but nowhere else, if they remove; and that it be upon the north point of the Island near Spuyten Duyvel."³

Mrs. Mary A. Bolton Post, in writing to the editor of "The Evening Post," June 19th of the year of the opening of the Harlem Ship Canal (1895), speaks of some Indians who were allowed to camp on the south side of Spuyten Duyvil Creek on the Bolton property in 1817. Ruttenber says that the Reckgawawanos had their principal village at Yonkers, but that on Berrien's Neck (Spuyten Duyvil Hill) was situated their castle or fort called Nipinichsen. This fort was protected by a strong stockade and commanded the romantic scenery of the Papirinimen, or Spuyten Duyvil Creek, and the Mahicanituk (Hudson River), the junction of which was called the Shorackappock. It was from this castle that the Indians came who attacked Hudson on his return down the river.⁴ Some small shell deposits occur on Spuyten Duyvil Hill, but as yet this "castile" has not been definitely located. The village site at Yonkers, according to Mr. James, is now covered by buildings; but several relics found near the site years ago are now in the Manor Hall at that place (1904).

¹ All that could be saved of this skeleton has been presented to the Museum by Mr. Edward Hagaman Hall.

² History of Harlem, p. 366.

³ Ibid., p. 369.

⁴ Ruttenber, pp. 77-78.

Judging from these references, we might conclude that the territory occupied by the tribe commonly known as Manhattans included Manhattan Island and that part of the mainland which is west of the Bronx River north to Yonkers, and that these Indians were a sub-tribe of the Wappinger division of the Mahican.

Indian Burials.

Indian Burials. Notwithstanding all the efforts of various collectors, the first Indian burials to be discovered on the Island were due to the activities of Messrs. Bolton and Calver in 1904. The improvement of Seaman Avenue, Upper Manhattan, at that time, uncovered many relics of the long extinct Indian inhabitants among which Mr. Bolton saw unmistakable signs of Indian graves. To quote from this gentleman: "It thus became evident that there were human interments in the vicinity, and in August, 1907, the first burial was discovered under a shell pit in Corbett's garden. The grading process had been extended only about eighteen inches below the sod, but had sufficed to destroy the jaw of the skeleton which extended upwards, as did also the foot bones. The bones lay in and upon a close mass of oyster shells, some of which were unopened, the skeleton reclined on its right side, facing west. The arms were flexed and crossed, the knees bent and the head thrown back. No traces of weapons were found, nor were there any other objects found, save a fragment of an animal bone.

"The location and position led to further exploration, which, early in 1908, led to still more interesting discoveries. Sunday, March 22nd, being the first day in the field for exploration for the season for 1908, W. L. Calver and the writer met at Seaman Avenue and Hawthorne Street, Manhattan, to discuss plans for further excavations on this Indian village site. The rains of the winter 1907-8 had washed the west bank where the layer of oyster shells and black dirt lay along the hill, and a patch of red burnt earth was observed, which on digging out, disclosed a fireplace, evidently of the period of the Revolution, having some large burnt stones, ashes, wood charcoal, brick, broken rum bottles, a wine glass nearly complete, a large open clasp-knife with bone handle, a hoop-iron pot-hook, various forged head nails and a curious folding corkscrew. Gold buttons of Revolutionary pattern and an officer's silver button of the Royal Mariners, together with pewter buttons of the 17th Regiment disclosed who had occupied the spot.

"At one part of this fireplace, we came upon a pocket of oyster shells, evidently Indian, about two feet deep, and on removing some of these, had the good fortune to uncover a human thigh-bone. We worked carefully

into the shells and under the pocket, gradually disclosing the complete remains of a full-grown man (Fig. 19) lying on its right side, feet to the north, head facing east, knees doubled up, the left arm extended down through the thighs. The feet had been within the area of the hole in which the Revolutionary fireplace had been made, and only one or two foot bones were found. At a later period other foot bones were found on the opposite side of the Revolutionary fireplace, evidently having been displaced in its construction. The right arm was flexed, and the hand was under the head, the latter was



FIG. 19. INDIAN BURIAL, MANHATTAN.

intact and every tooth was in place. Shells had been packed over the body, and some around it. We were much puzzled by a number of human bones, lying compactly together by the skeleton, in a position that would have been in its lap had it been upright.

"We removed the skull, covered the remains, and on Sunday, March 29th, renewed the work. We went carefully to work upon the cluster of mixed bones in front of the large skeleton, and soon found them to be rather compactly arranged in a rectangular form about 14 by 26 inches, the long bones parallel. The vertebræ abruptly ended parallel with the head of the larger skeleton, and after working some time, we found a skull placed below, beneath the pile of bones in a vertical position, facing north, the

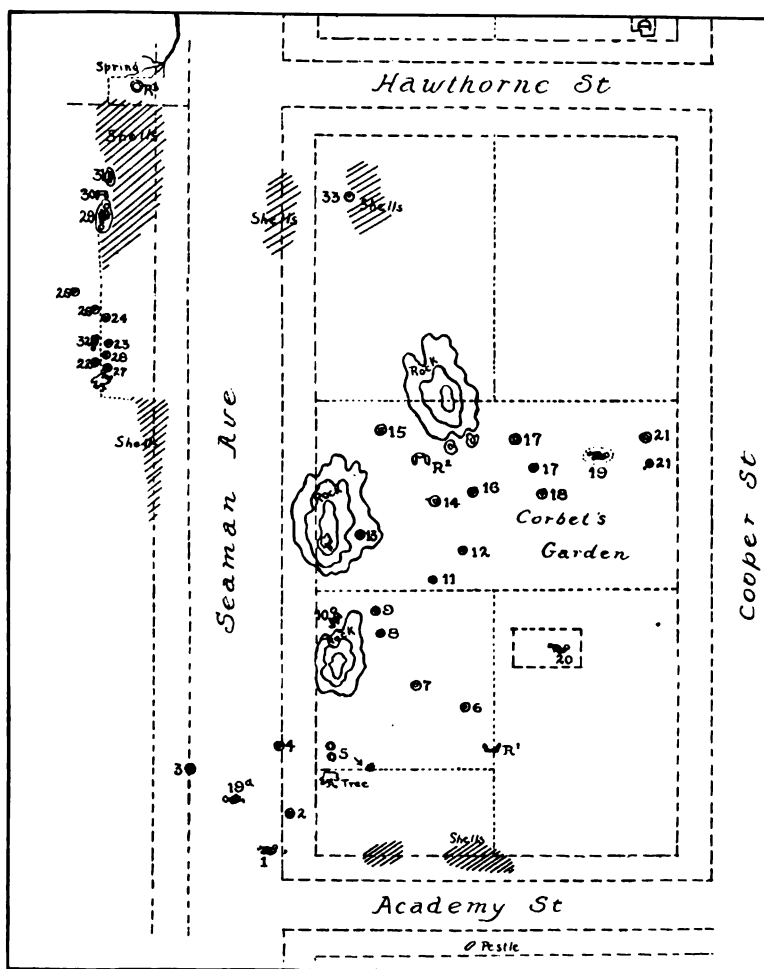


FIG. 20. LOCATION OF BURIALS, PITS AND SHELL-BEDS NEAR INWOOD.

1. Human remains. 2. Shell pit, deer antler. 3. Shell pit. 4. Shell pit, pottery. 5. Shell pits. 6. Shell pit, sturgeon below. 7. Shell pit, sturgeon scales. 8, 9. Shell pits. 10. Human remains. 11. Fire pit. 12. Shell pit. 13. Dog burial, puppy. 14. Shell pit. 15. Part of a jar. 16. Shell pit, fish and meat bones. 17. Shell pits. 18. Two dogs in shell pit. 19. Human skeleton, 1907. 19a. Female skeleton, 1908. 20. Human remains when house was built. 21. Small fire pits, Revolutionary. 22. Large shell pit. 23. Large shell pit. 24. Shell pit. 25. Dog burial. 26, 27, 28. Shell pits. 29. Two human skeletons, male and female. 30. Revolutionary fireplace "Royal Mariners" and "17th." 31. Skeleton and infant, female. 32. Skeleton (Chenoweth, 1908). 33. Revolutionary fireplace, 71st, officers' buttons. D. Dyckman dwelling. R¹, R², Revolutionary fireplaces. R³. Revolutionary well.

lower jaw of which was disengaged, and was placed sideways in front of the face. The back of the skull was broken in, and was black with marks of burning. The lower jaw was burned, and some of the teeth split by fire. The arm and leg bones were charred at the joints. Inside the skull was a burned toe bone. Some oyster shells were among the charred remains.

"A significant fact was that the right arm bones of the large skeleton were below the pile of burned bones. This feature, and the compact arrangement of the latter within the space in front of and at the same level as the large skeleton, seem to point strongly towards an intentional arrangement of these bones, in front of the large corpse and to indicate the simultaneous burial of the two bodies. On examination, the large skeleton proved to be that of an adult male, and the dismembered remains those of a female of about 35 years of age. No implements were found with the remains, but a part of a stone pestle and a rude celt lay under the sod among the oysters above the large skeleton.

"On Sunday, June 14, 1908, another burial was found about 20 feet north of the above. This burial consisted of an adult skeleton doubled up and its back much curved, and was apparently that of a female of mature age. Between the knees, the remains of a small infant were laid, the skull of the latter being fragmentary. The right hand of the adult was below the infant and the left hand around the throat. The skull was intact and had nearly all the teeth. One finger bone had grown together at the joint in a crooked position apparently due to disease. On lifting the ribs of the right side, an arrow-head of flint fell out between the fourth and fifth bones. These skeletons lay about two and a half feet below the grass, and a pocket of oyster shells was over the head. The woman's remains lay within a space about 31 inches long by 50 inches wide, flat in the hard red sand bed facing east.

"Shortly after these remains were discovered, Mr. Chenoweth extended the excavation previously made by the explorers at the side of a large oyster shell pit in the same bank of sand, and uncovered a male skeleton of which he preserved the skull. Some small fragments of the skeleton were afterwards found by the writer on this spot. Contractors for the sewer in Seaman Avenue also uncovered the remains of a young female close to the position of several of the shell pits previously described.

"These interments have some curious features. The position of the remains facing east, sometimes west, the absence of weapons or other objects and the oyster shells packed with or above them are subjects for interesting discussion on which future finds may throw much light, as also upon the peculiar double burial and the burnt state of the female remains."

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of or in coöperation with the Scientific, Historical and
Art Committees of the Hudson-Fulton
Celebration Commission

AMERICAN MUSEUM OF NATURAL HISTORY, Seventy-seventh Street, from Columbus Avenue to Central Park West. Open daily, except Sundays, from 9 a.m. to 5 p.m.; Sundays from 1 to 5 p.m. Always free. **Special Exhibition during the Hudson-Fulton Celebration, from September 1st to December 1st.** Original objects showing the life and habits of the Indians of Manhattan Island and the Hudson River Valley. (Special illustrated guide for sale; price, 10 cents.)

Take Sixth or Ninth Avenue Elevated Railway to Eighty-first Street, or Subway to Seventy-ninth Street; also reached by all surface cars running through Columbus Avenue or Central Park West.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS, Engineering Building, 29 West Thirty-ninth Street. **Robert Fulton Exhibition** consists of paintings, drawings, books, decorations and furniture, and working models of John Fitch's steamboat, the first boat operated and propelled by steam, Robert Fulton's "Clermont," the first successful application of steam to navigation, and John Stevens's "Phoenix," the first steamboat to sail on the ocean.

The exhibition will be shown in the Council Room of the Society, on the eleventh floor, and will be open from 9.00 a.m. until 5.30 p.m. during the entire period of the Hudson-Fulton Celebration, and from 9.00 a.m. until 5.00 p.m. daily until December 6th.

BROOKLYN INSTITUTE, Eastern Parkway. Open daily, except Sundays, from 9 a.m. to 6 p.m.; Sundays from 2 to 6 p.m.; Thursday evenings from 7.30 to 9.30 p.m. Free except on Mondays and Tuesdays, when admission fee is charged of 25 cents for adults and 10 cents for children under six years of age. Collections illustrating various departments of Archæology, Mineralogy and Ethnography. **Special Exhibition relating to past and present life of Indians on Long Island.** Portrait of Robert Fulton painted by

himself, the property of Col. Henry T. Chapman and loaned by him to the Museum. Open September 1st to December 31st. (Illustrated catalogue for sale.)

Take Subway Express to Atlantic Avenue, or Flatbush Avenue Trolley from Brooklyn Bridge. St. John's Place surface car from Atlantic Avenue or Borough Hall.

CHILDREN'S MUSEUM (Brooklyn Institute), Bedford Park, Brooklyn Avenue. Collection illustrative of the fauna of Long Island. Open free to the public from Monday to Saturday (inclusive) from 9 a.m. to 5.30 p.m., and on Sunday from 2 until 5.30 p.m.

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DEPARTMENT OF PARKS, BOROUGHES OF BROOKLYN AND QUEENS. Through the courtesy of Commissioner Michael J. Kennedy, the different species of trees have been labeled in Prospect Park, from the Plaza to the Willink Entrance; in Bedford Park; in Highland Park, and in Tompkins Park. An additional small enameled sign has been hung on those labeled trees that were indigenous to the Hudson River Valley in 1609. The special label reads: "This species is a native of the Hudson River Valley."

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Take Subway to Bowling Green Station, or Third Avenue Elevated Railway to Hanover Square Station, or Broadway surface cars.

LONG ISLAND HISTORICAL SOCIETY, corner of Pierrepont and Clinton Streets, Brooklyn, between Brooklyn Bridge and Borough Hall. Open daily, except Sundays, from 8.30 a.m. to 6 p.m. Reference library of 70,000 volumes; manuscripts, relics, etc. **Autograph receipt of Robert Fulton and original manuscript volume of Danker's and Sluyter's "Journal of a Voyage to New York in 1679-80."**

Take Subway to Borough Hall, Brooklyn; Third Avenue Elevated Railway or surface cars to Brooklyn Bridge, connecting with Bridge cars.

METROPOLITAN MUSEUM OF ART, Central Park East. Main entrance on Fifth Avenue at Eighty-second Street. Open daily, except Sundays, from 10.00 a.m. to 6.00 p.m.; until Dec. 31st, to 5.00 p.m.; Saturdays to 10.00 p.m.; Sundays from 1.00 to 6.00 p.m. On Mondays and Fridays an admission fee of 25 cents is charged, except to members and copyists. Collections illustrating all departments of Art and Archæology. **Special Exhibition of a magnificent Collection of over 130 of the works of 17th century Dutch Masters, constituting the finest Exhibition of this kind ever made. Products of Colonial Art: American Paintings, Furniture, Pewter and Silver of the 17th and 18th centuries, etc.** (Two catalogues for sale, one of Dutch Exhibit and one of Colonial Arts; price, 10 cents each. Also finely illustrated edition de luxe.)

Take Fifth Avenue stages or Madison Avenue surface cars to Eighty-second Street, one block east of Museum; connection with Subway at Forty-second Street, and with Elevated Railway and West Side surface cars at Fifty-ninth Street.

NATIONAL ARTS CLUB, Twentieth Street near Irving Place (Gramercy Park). This house was formerly the residence of Samuel J. Tilden, and is situated one block east of the birth-place of Ex-President Roosevelt. Open daily from September 20th to about October 18th, 1909, from 10 a.m. to 6 p.m. **Special**

Loan Exhibition by the National Arts Club, in cooperation with the American Scenic and Historic Preservation Society.

Three centuries of New York City: Special Exhibition of Paintings, Photographs, Drawings and other interesting materials, illustrating the growth and progress of New York from the time of Henry Hudson to the present day.

Take Fourth or Madison Avenue surface cars to corner of Fourth Avenue and Twentieth Street, one block west of Club-house. Subway Station at Eighteenth Street and Fourth Avenue, three blocks away.

NEW YORK AQUARIUM, in Battery Park. Under the management of the New York Zoölogical Society. Open daily, including Sundays, from 9 a.m. to 5 p.m. until October 15th. (October 16th to April 14th, from 10 a.m. to 4 p.m.) This building was erected in 1807 by the United States Government as a fort and after the War of 1812 was called Castle Clinton; later, as Castle Garden, it was the scene of Jenny Lind's triumphs, and from 1855 to 1890 it was the portal of the New World for 7,690,606 immigrants. This is the largest aquarium in the world and contains a greater number of specimens and species than any other. **All tanks containing fish indigenous to the Hudson River will be so marked.**

Take any Elevated Railway to Battery Place Station, or Subway to Bowling Green Station. Also reached by all surface cars which go to South Ferry.

NEW YORK BOTANICAL GARDEN, Bronx Park. Museums open daily including Sundays from 10 a.m. to 5 p.m.; Conservatories from 10 a.m. to 4 p.m. Grounds always open. **In the Grounds and Conservatories exhibits of Plants, Shrubs, Trees and Natural Woodland; in the Museums, Plant Products utilized in the Arts, Sciences and Industries. All Trees growing on Manhattan Island and Hudson River Valley at the time of Hudson's arrival are marked with the letter "H."** (Special illustrated catalogue for sale.)

Take Third Avenue Elevated Railway to Bronx Park (Botanical Garden). Subway passengers change at Third Avenue and 149th Street. Also reached by Harlem Division of the New York Central Railroad from Grand Central Station, Fourth Avenue and Forty-second Street.

NEW YORK GENEALOGICAL AND BIOGRAPHICAL SOCIETY, 226 West Fifty-eighth Street, between Broadway and Seventh Avenue. Open daily, except Sundays, from 10.00 a.m. to 5.00 p.m., until November 1st.

Special Exhibition of old Deeds, Manuscripts, Books, Portraits, etc., relating to the history of the United States up to and including the War of 1812. (Catalogue for sale.)

Take Broadway surface cars to corner of Fifty-eighth Street. Subway station at Columbus Circle (Fifty-ninth Street), two blocks distant. Sixth Avenue Elevated station at Ninth Avenue and Fifty-ninth Street, three blocks away.

NEW YORK HISTORICAL SOCIETY, corner of Seventy-seventh Street and Central Park West. September 25th to October 30th, open daily from 9 a.m. to 5 p.m. **Robert Fulton Exhibition of the New York Historical Society**, in coöperation with the Colonial Dames of America. (Catalogue for sale.)

Take Sixth Avenue Elevated Railway to Eighty-first Street and Columbus Avenue, or surface cars traversing Central Park West. Also reached by any Columbus Avenue surface car to Seventy-seventh Street.

NEW YORK PUBLIC LIBRARY, Lenox Branch, Fifth Avenue and Seventy-second Street. Open daily, except Sundays, from 9 a.m. to 6 p.m. **Special Exhibition of Prints, Books, Manuscripts, etc., relating to Henry Hudson, the Hudson River, Robert Fulton and Steam Navigation.** (Special illustrated catalogue for sale; price, 10 cents.)

Take Fifth Avenue Stages, or Madison Avenue surface cars to Seventy-second Street, one block east of Library; connection with Subway at Grand Central Station and with Elevated Railway and West Side surface cars at Fifty-ninth Street.

NEW YORK ZOÖLOGICAL PARK, under the management of the New York Zoölogical Society, St. Nicholas Avenue (138th to 140th Streets), in Bronx Park. Open daily, including Sundays, from 9 a.m. until an hour before sunset (November 1 to May 1 from 10 a.m.). Free, except on Mondays and Thursdays, when an admission fee of 25 cents is charged. Exhibition of a splendid collection of Animals, Birds and Reptiles. **The fauna of Henry Hudson's time on Manhattan Island and Hudson River Valley will be indicated by the flag of the Hudson-Fulton Celebration.** (Special illustrated catalogue for sale.)

Take Subway trains marked "Bronx Park Express" to terminus at 180th Street, or Third Avenue Elevated to Fordham Station. The entrances are reached by numerous surface cars.

REFORMED DUTCH CHURCH. The Reformed Protestant Dutch Church of the City of New York will make an exhibit in

the chapel of the Church of St. Nicholas, Fifth Avenue and 48th Street, during the week of the celebration, 9 to 5 daily.

This church was organized A.D. 1628, and the exhibit will comprise articles connected with its long history.

VAN CORTLANDT HOUSE MUSEUM, in Van Cortlandt Park. This fine colonial mansion, built in 1748, with furniture of the period, is one of the oldest houses within the area of Greater New York; it is in the custody of the Colonial Dames of the State of New York. Open daily, 9.00 a.m. to 5.00 p.m. **Special Exhibition of Mezzotint Portraits of men prominent in political life prior to the Revolution; Wedgwood's Medallion Portraits of Illustrious Personages; Cartoons and Caricatures of political events, etc.** (Special illustrated catalogue on sale.)

Take Harlem Railroad from Grand Central Station; Sixth Avenue Elevated Railway, connecting at 155th Street with the Putnam Division of the New York Central Railroad; or Subway trains marked "Van Cortlandt Park."

WASHINGTON'S HEADQUARTERS (The Jumel Mansion), Roger Morris Park, Edgecombe Road and One Hundred and Sixty-second Street. Built about 1760. Under the Department of Parks. Exhibition by the ladies of the Washington Headquarters Association, Daughters of the American Revolution. Open free daily, including Sundays, from 9 a.m. to 5 p.m. **Special features: Collection of Colonial furnishings, objects and pictures; also the Bolton Collection of War Relics of the Revolution.**

Take "Tenth Avenue, Broadway, and Amsterdam Avenue" surface cars of the Third Avenue system; Sixth Avenue Elevated Railway to One Hundred and Fifty-fifth Street, or Broadway Subway to One Hundred and Fifty-seventh Street.

BY SPECIAL CARD ONLY

AMERICAN GEOGRAPHICAL SOCIETY, 15 West 81st Street. **Special Exhibition of Books and Maps relating to Henry Hudson and Robert Fulton.** Admission can be obtained by card. Apply to the Librarian, 15 West 81st Street. Open from September 25th to October 9th, from 9 a.m. to 5 p.m.

GEORGE F. KUNZ,

Hudson-Fulton Celebration Commission,
Tribune Building, New York.

HUDSON-FULTON CELEBRATION COMMISSION

THE NEW YORK BOTANICAL GARDEN
BRONX PARK

Descriptive Guide
TO THE
Grounds, Buildings and Collections

**Native Trees of the
Hudson River Valley**



Reprinted from the
BULLETIN OF THE NEW YORK BOTANICAL GARDEN, No. 23,
with an index added

NEW YORK
SEPTEMBER, 1909

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Mayor of the City of New York and chartered by Chap-
ter 325, Laws of the State of New York, 1906

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Take Subway to Borough Hall, Brooklyn; Third Avenue Elevated Railway to Brooklyn Bridge, connecting with Bridge cars; or surface cars to Bridge.

METROPOLITAN MUSEUM OF ART, Central Park East. Main entrance on Fifth Avenue at Eighty-second Street. Open daily, except Sundays, from 10.00 a.m. to 6.00 p.m.; in winter to 5.00 p. m.; Saturdays to 10.00 p.m.; Sundays from 1.00 to 6.00 p.m. On Mondays and Fridays an admission fee of 25 cents is charged, except to members and copyists. Collections illustrating all departments of Art and Archaeology. Special Exhibition of a magnificent Collection of over 130 of the works of Old Dutch Masters, constituting the finest Exhibition of this kind ever made. Products of Colonial Art: Industrial Art, Furniture, Pewter of the 17th and 18th centuries, etc. (Two illustrated catalogues for sale, one of Dutch Exhibit and one of Colonial Arts; price 10 cents each. Also finely illustrated edition de luxe.)

Take Fifth Avenue stages or Madison Avenue surface cars to Eighty-second Street, one block east of Museum; connection with Subway at Forty-second Street, and with Elevated Railway and West Side surface cars at Fifty-ninth Street.

NATIONAL ARTS CLUB, Twentieth Street near Irving Place (Gramercy Park). This house was formerly the residence of Samuel J. Tilden, and is situated one block east of the birth-place of Ex-President Roose-

velt. Open daily from September 20th to about October 18th, 1909, from 9 a.m. to 10 p.m. Special Loan Exhibition by the National Arts Club, in cooperation with the American Scenic and Historic Preservation Society, under the management of the New York Zoological Society.

Three centuries of New York City: Special Exhibition of Paintings, Photographs, Drawings and other interesting materials, illustrating the growth and progress of New York from the time of Henry Hudson to the present day. (Catalogue for sale.)

Take Fourth or Madison Avenue surface cars to corner of Fourth Avenue and Twentieth Street, one block west of Club-house. Subway Station at Eighteenth Street and Fourth Avenue, three blocks away.

NEW YORK AQUARIUM, in Battery Park. Open daily, including Sundays, from 9 a.m. to 5 p.m. until October 15th. (October 16th to April 14th, from 10 a.m. to 4 p.m.) This building was erected in 1807 by the United States Government as a fort and after the War of 1812 was called Castle Clinton; later, as Castle Garden, it was the scene of Jenny Lind's triumphs and from 1855 to 1890 it was the portal of the New World for 7,690,606 immigrants. This is the largest aquarium in the world and contains a greater number of specimens and species than any other. All tanks containing fish indigenous to the Hudson River will be so marked.

Take Elevated Railway to Battery Place Station, or Subway to Bowling Green Station; also reached by all surface cars which go to South Ferry.

NEW YORK BOTANICAL GARDEN, Bronx Park. Museums open daily, including Sundays, from 10 a.m. to 5 p.m.; Conservatories from 10 a.m. to 4 p.m. Grounds always open. In the Grounds and Conservatories exhibits of Plants, Shrubs, Trees, and Natural Woodland; in the Museums, Plant Products utilized in the Arts, Sciences and Industries. All trees growing on Manhattan Island and in the Hudson River Valley at the time of Hudson's arrival are marked with the letter "H." (Special illustrated catalogue for sale.)

Take Third Avenue Elevated Railway to Bronx Park (Botanical Garden). Subway passengers change at 149th Street; also reached by Harlem Division of the New York Central Railroad from Grand Central Station, Fourth Avenue and Forty-second Street.

NEW YORK GENEALOGICAL AND BIOGRAPHICAL SOCIETY, 226 West Fifty-eighth Street, between Broadway and Seventh Avenue. Open daily, except Sundays, from 10.00 a.m. to 5.00 p.m., until November 1st. Special Exhibition of old Deeds, Manuscripts, Books, Portraits, etc., relating to the history of the United States up to and including the War of 1812. (Catalogue for sale.)

Take Broadway surface cars to corner of Fifty-eighth Street. Subway station at Columbus Circle (Fifty-ninth Street), two blocks distant; Sixth Avenue Elevated station at Ninth Avenue and Fifty-ninth Street, three blocks away.

NEW YORK HISTORICAL SOCIETY, corner of Seventy-seventh Street and Central Park West. September 25th to October 30th, open daily from 9 a.m. to 5 p.m. Robert Fulton Exhibition of the New York Historical Society, in cooperation with the Colonial Dames of America. (Catalogue for sale.)

Take Sixth Avenue Elevated Railway to Eighty-first Street and Columbus Avenue, or surface cars traversing Central Park West; also reached by any Columbus Avenue surface car to Seventy-seventh Street.

NEW YORK PUBLIC LIBRARY, Lenox Branch, Fifth Avenue and Seventy-second Street. Open daily, except Sundays, from 9 a. m. to 6 p.m.

Special Exhibition of Prints, Books, Manuscripts, etc., relating to Henry Hudson, the Hudson River, Robert Fulton, and Steam Navigation. (Special illustrated catalogue for sale; price 10 cents.)

Take Fifth Avenue Stages, or Madison Avenue surface cars to Seventy-second Street, one block east of Library; connection with Subway at Grand Central Station and with Elevated Railway and West Side surface cars at Fifty-ninth Street.

NEW YORK ZOOLOGICAL PARK, under the management of the New York Zoological Society, in Bronx Park. Open daily, including Sundays, from 9 a.m. until an hour before sunset (November 1 to May 1 from 10 a.m.). Free, except on Mondays and Thursdays, when an admission fee of 25 cents is charged. Exhibition of a splendid collection of Animals, Birds and Reptiles. The fauna of Henry Hudson's time on Manhattan Island and Hudson River Valley will be indicated by the flag of the Hudson-Fulton Celebration. (Special illustrated catalogue describing same for sale.)

Take Subway trains marked "Bronx Park Express" to terminus at 180th Street, or Third Avenue Elevated to Fordham Station. The entrances are reached by numerous surface cars.

REFORMED DUTCH CHURCH. The Reformed Protestant Dutch Church of the City of New York will make an exhibit in the chapel of the Church of St. Nicholas, Fifth Avenue and 48th Street, during the week of the celebration, 9 to 5 daily.

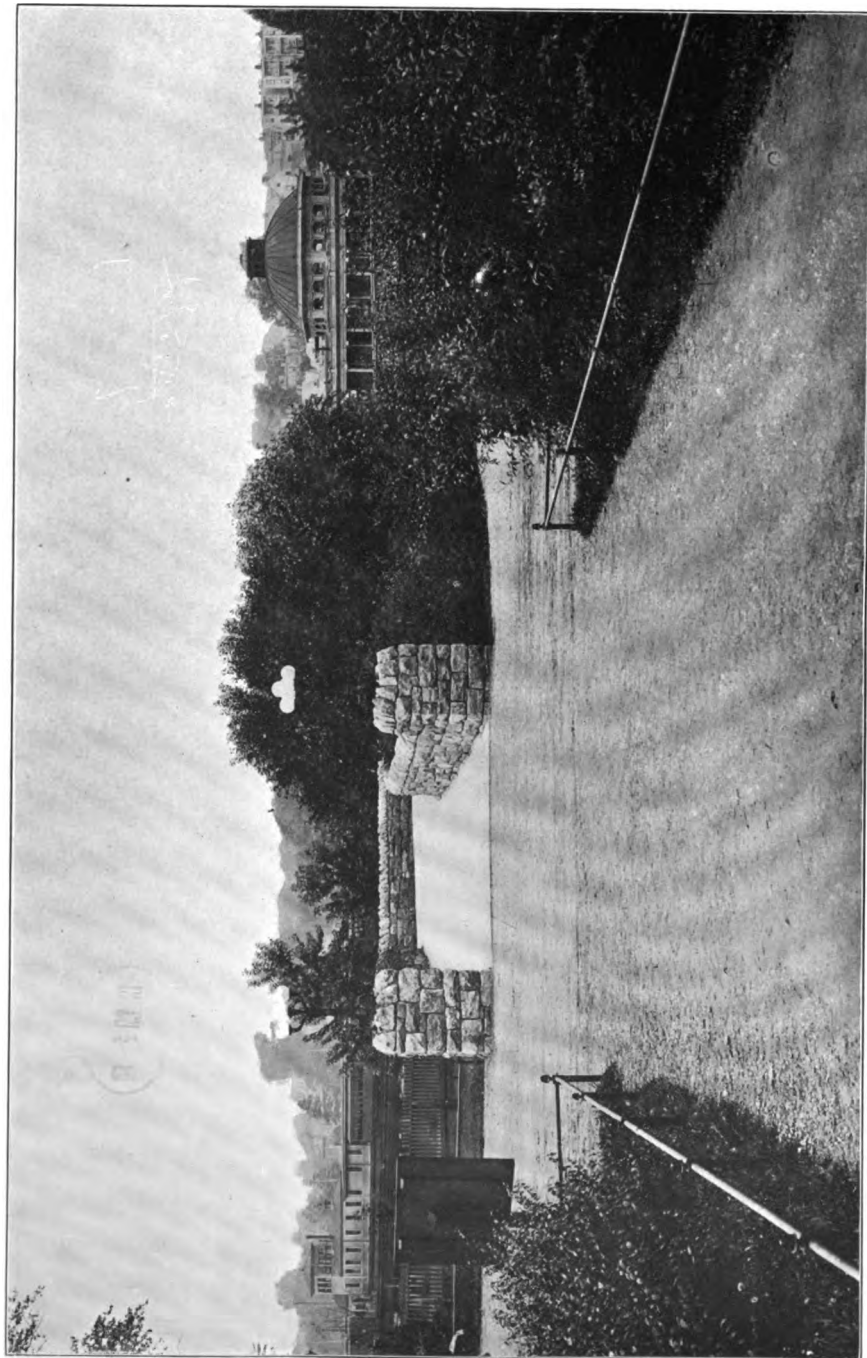
This Church was organized A.D. 1628, and the exhibit will comprise articles connected with its long history.

VAN CORTLANDT HOUSE MUSEUM, in Van Cortlandt Park. This fine colonial mansion, built in 1748, with furniture of the period, is one of the old houses within the area of Greater New York; it is in the custody of the Colonial Dames of the State of New York. Open daily, 9.00 a.m. to 5.00 p.m. Special Exhibition of Mezzotint Portraits of men prominent in political life prior to the Revolution; Wedgwood's Medallion Portraits of Illustrious Personages; Cartoons and Caricatures of political events, etc. (Special illustrated catalogue on sale.)

Take New York Central Railroad from Grand Central Station; Sixth Avenue Elevated Railway, connecting at 155th Street with the Putnam Division of the New York Central Railroad; or Subway trains marked "Van Cortlandt Park."

WASHINGTON'S HEADQUARTERS (The Jumel Mansion). Roger Morris Park, Edgecombe Avenue and one Hundred and Sixty-second Street. Built about 1760. Under the Department of Parks. Exhibition by the ladies of the Washington Headquarters Association, Daughters of the American Revolution. Open free daily, including Sundays, from 9 a.m. to 5 p.m. Special features: Collection of Colonial furnishings, objects and pictures; also the Bolton Collection of War Relics of the Revolution.

Take Amsterdam Avenue surface cars; Sixth Avenue Elevated Railway to One Hundred and Fifty-fifth Street, or Broadway Subway to One Hundred and Fifty-seventh Street.



APPROACH TO ELEVATED RAILWAY STATION

DESCRIPTIVE GUIDE TO THE GROUNDS, BUILDINGS AND COLLECTIONS

Location

The New York Botanical Garden is situated in the northern end of Bronx Park, the reservation including about 250 acres of land of a very diversified character, furnishing natural landscapes of great beauty and variety.

Means of Access

The Garden is conveniently reached in the following ways:

1. By the Harlem Division of the New York Central and Hudson River Railroad to Bronx Park Station.
2. By the Third Avenue Elevated Railway system to the terminal station of that road at Bronx Park.
3. By the Subway, Lenox Avenue and West Farms branch with transfer at 149th Street and Third Avenue to Elevated Railway, thence to Bronx Park Station.
4. By trolley car on Webster Avenue to 200th Street or the Woodlawn Road. This line connects with lines from the western part of the Bronx on Kingsbridge Road, and on Tremont Avenue, and also with the line to Yonkers.
5. By trolley line on the White Plains road east of Bronx Park from West Farms, Williamsbridge, and Mt. Vernon, connecting with lines from the eastern part of the Bronx at West Farms and at Mt. Vernon.
6. By driveways in Mosholu Parkway from Van Cort-

landt Park; from Pelham Bay Park through Pelham Parkway; through the Crotona Parkway and Southern Boulevard from Crotona Park; there are also driveway entrances at 200th Street, convenient for carriages coming from Jerome Avenue; at Newell Avenue, at the northern end of the Garden, for carriages coming from the north; at Bleecker Street on the eastern side of the Garden for carriages coming from the east; and at the Woodlawn Road, convenient for carriages coming from Yonkers, and from other points west and northwest of the Garden.

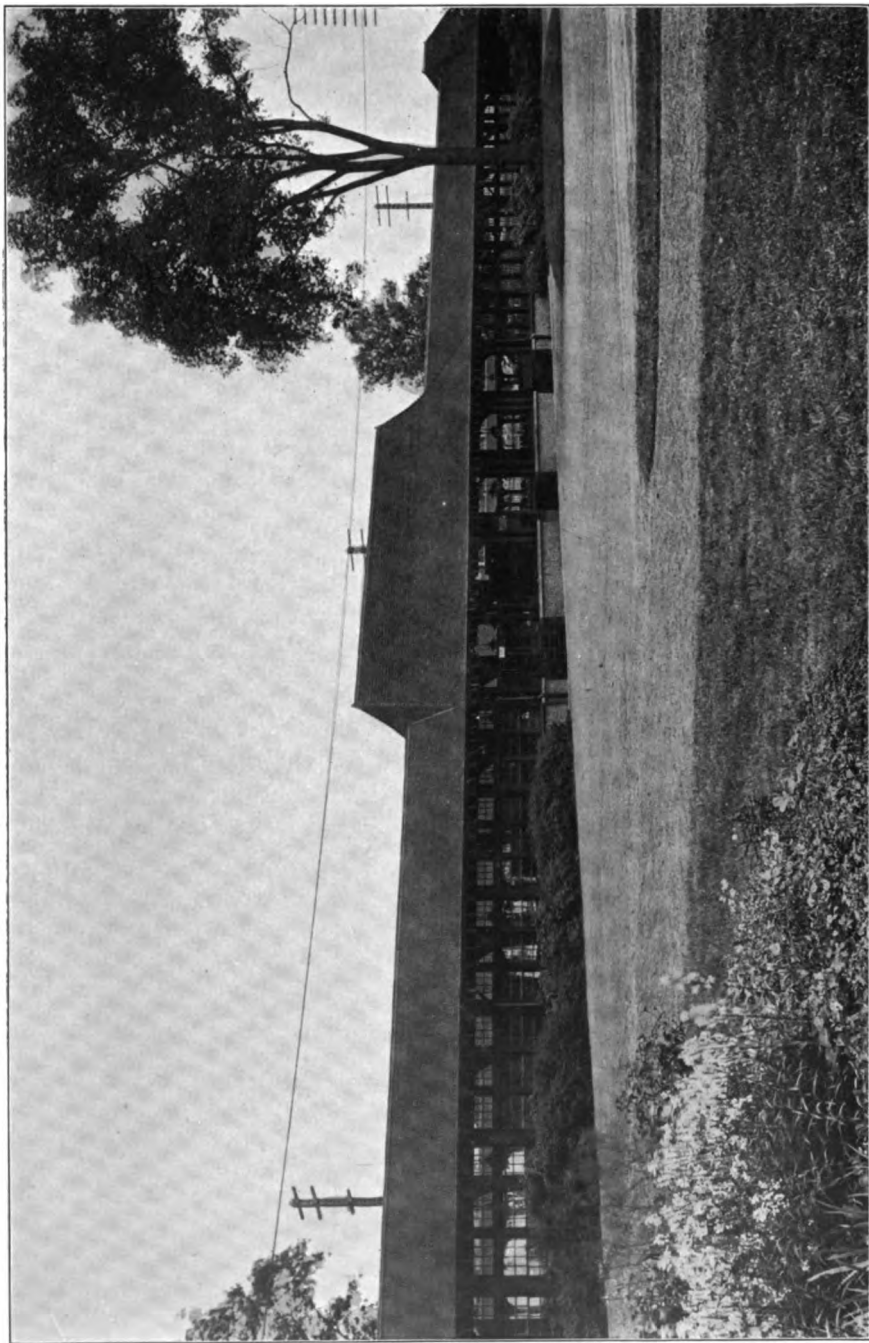
Purposes

The New York Botanical Garden was established by an Act of the Legislature of the State of New York passed in 1891 and amended in 1894 "for the purpose of establishing and maintaining a Botanical Garden and Museum and Arboretum therein, for the collection and culture of plants, flowers, shrubs and trees, the advancement of botanical science and knowledge, and the prosecution of original researches therein and in kindred subjects, for affording instruction in the same, for the prosecution and exhibition of ornamental and decorative horticulture and gardening, and for the entertainment, recreation and instruction of the people."

General Plan

The general plan of development includes:

1. The largest conservatories in America, for the cultivation of plants of tropical regions, one located near the entrance at the elevated railway station, and a second very large range, partly constructed, near the Bleecker Street entrance on the eastern side of the Garden.
2. The largest botanical museum in the world, located near the Bronx Park station of the New York Central Railroad and the Mosholu Parkway entrance. This building includes a large lecture hall for public lectures in the basement; and the library, laboratories for instruction and research, and the herbarium, on the upper floor.



NEW YORK CENTRAL RAILROAD STATION

3. The pinetum, or collection of cone-bearing trees, mostly evergreens, which is being brought together on the hills and slopes on all sides of the conservatories, range 1, and in the space between that structure and the museum building.

4. The herbaceous grounds, situated in a valley east of the conservatories, range 1, near the Southern Boulevard entrance, containing collections of hardy herbaceous plants, arranged by botanical relationship, and also a collection of similar plants, arranged to demonstrate elementary botany; the economic garden, a plantation designed to illustrate hardy plants whose products are directly useful to man, is being installed in the northern part of the same valley.

5. The fruticetum, or collection of hardy shrubs, located on the plain northeast of the museum building at the Woodlawn Road entrance and extending northward into the north meadows; this collection is also arranged by botanical relationship.

6. The deciduous arboretum, or collection of trees which lose their leaves in the autumn, located along the entire eastern side of the grounds from south to north.

In addition to these artificial features, the following natural features are of special interest:

7. The hemlock grove, a forest of the Canadian hemlock spruce, clothing the hills between the museum building and the Bronx River and covering about forty acres, considerable portions of it being primeval.

8. The gorge of the Bronx River, extending south from the waterfall at the Lorillard Mansion, along the edge of the hemlock grove to the southern boundary of the Garden.

9. The north meadows and river woods along the Bronx River from the northern end of the hemlock grove to the northern end of the Garden.

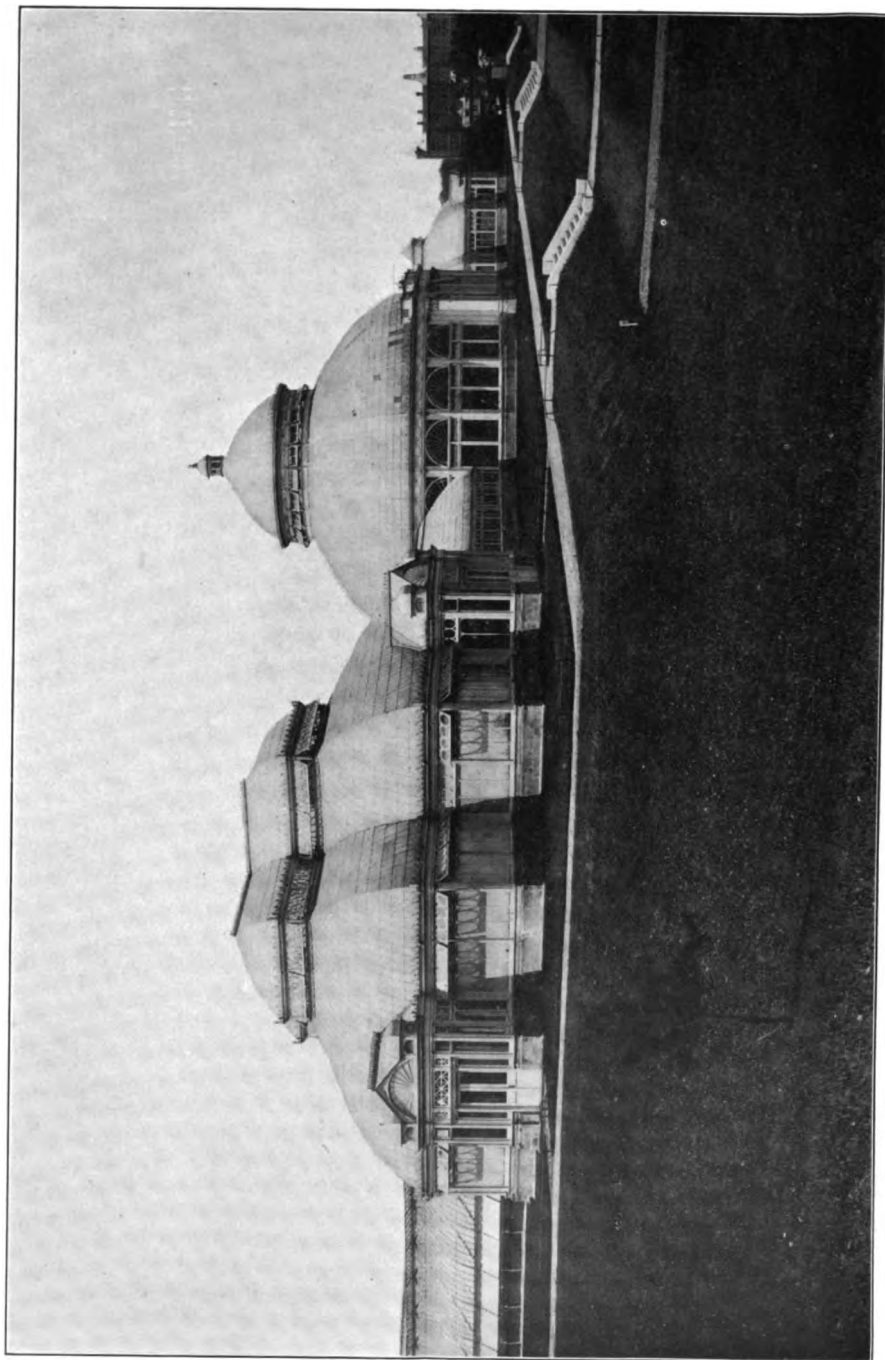
1. The Conservatories

Range No. 1.

This great glass-house, located but a short distance from the terminus of the Third Avenue Elevated Railroad, is 512

feet in length, with a central dome about 90 feet in height, and wings extending from the main range in such a way as to form a court open to the southwest. The area under glass is about one acre. The building stands on a terrace 5 feet in height, approached by six flights of cut granite steps connecting with the path and driveway approaches. The house contains fifteen compartments, separated by glass partitions and doors.

House No. 1 contains palms of numerous species from all parts of tropical and warm regions, both of the Old World and the New. Of West Indian palms, the collection contains the royal palm of Cuba and Florida, an elegant plant of the corozo palm (*Acrocomia media*) of Porto Rico and the Windward Islands; the cocoanut palm, planted in all tropical countries for its fruit and for the numerous uses to which its fiber, wood and leaves are applied; it is not definitely known that the cocoanut palm is a native of the West Indies, and where in the tropical regions it actually originated is uncertain. Central and South American palms are illustrated by the delicate *Cocos Weddelliana* from Brazil, by the silvertop palm (*Coccothrinax argentea*), and by the curious Mexican *Acanthorhiza aculeata*, with spine-like roots on its trunk. Old World species are shown in a very large tree of the Chinese fan-palm, by the date palm (*Phoenix dactylifera*) of northern Africa, by the very broad-leaved *Phoenicophorium sechellarum*, native of the Seychelles Islands, and by numerous other large species from the Pacific islands. Related to the palms and shown by numerous specimens in this house, we find a number of species of the cyclanthus family, the most conspicuous being the Panama hat plant (*Carludovica palmata*), from the young leaves of which the costly Panama hats are made. Opposite the entrance to the court in this house, is a group of bamboos, which belong to the grass family, the most noteworthy of them being the Chinese bamboo (*Bambusa vulgaris*), whose stems reach into the upper part of the dome; this plant grows with great rapidity each year by new shoots which come up from under ground,



PUBLIC CONSERVATORIES, RANGE I.

our measurements showing that they reached 65 feet in height in 95 days, a rate of about 8 inches a day. The plant has been introduced into the West Indies, and in places where it grows its stems are put to a great variety of uses in construction, for water pipes and for various utensils.

House No. 2 also contains specimens of the palm family, the smaller specimens of tropical species being exhibited here.

House No. 3 contains specimens illustrating several families of monocotyledonous plants of tropical regions. The amaryllis family is represented by a number of species of the spider lily (*Hymenocallis*), bearing large white flowers, the commonest being *Hymenocallis caribaea* from the sandy coasts of southern Florida and the West Indies; large plants of the genus *Crinum*, some of which have white flowers and some red or purple, may be seen on the middle bench, and the maguey of the West Indies (a spiny-leaved relative of the century plant, native of the West Indies, and used there for hedges), on the northern bench; this name maguey is also applied in parts of the West Indies to species of *Agave*, which will be found in house No. 6.

Numerous representatives of the lily family, especially of the genus *Dracaena*, may be found on the south bench, and these are much used for ornamental planting in the tropics; here also are plants of the genus *Sansevieria*, the bow-string hems of Africa; a valuable tough fiber is derived from their leaves; larger plants of the lily family may be found in the adjoining house No. 4, a portion of this house being given over to tall dracaenas and their relatives.

The arrow-root family is illustrated by the arrow-root (*Maranta arundinacea*), native of South America, but widely cultivated in the West Indies, its roots furnishing the commercial product; *Calathea* comprises a large number of tropical American plants noteworthy for their fine foliage, and there are other genera represented.

House No. 4. Here are brought together many kinds of large tropical plants belonging to families also represented in the smaller houses, but too tall to be grown on the benches.

The interesting screw-pines, natives of the Old World tropics, are illustrated by several species, the leaves of which are used in the manufacture of mats, hats and baskets. These plants are not at all related to pine trees, the latter part of the name referring to the slight resemblance the leaves bear to those of pineapple plants, which are commonly called *pinos* in the tropics, while the remainder of the name was suggested by the spiral arrangement of the leaves.

In this house may be found large specimens of the aroid family, the most noteworthy one of these being a magnificent plant of Veitch's tail-flower (*Anthurium Veitchii*), from Colombia, which is believed to be the most elegant plant of its kind in cultivation; climbing on trunks of trees set as supports, will be found a number of vines of the genera *Philodendron* and *Monstera*, the latter a native of Mexico, producing an edible fruit with the odor of pineapple.

A large tree of the common rubber plant, much grown in parlors, may be found in the center of this house, reaching to the roof; this is a native of tropical Asia and yields some rubber, but not in as great quantity nor of as good quality as the other rubber trees of South and Central America; it is a species of fig (*Ficus elastica*); other species of *Ficus* are shown in this house, notably a fine tree of Roxburgh's fig, which bears its inedible fruit in bunches near the base of the tree, and a specimen of the Banyan tree (*Ficus benghalensis*). Chocolate trees (*Theobroma Cacao*), native of tropical America, may be found near the western door of this house; the small white flowers are produced on the trunk and on branches, and a few of them develop into the large woody pods containing the seeds or chocolate beans, which are dried and ground up into chocolate and cocoa; specimens illustrating the chocolate industry will be found in the economic museum. The papaya, or papaw, also of tropical America, is illustrated by a tall tree in the middle of this house; its fruit, esteemed as an aid to digestion, is borne just under the crown of leaves. A specimen of the bread-fruit tree (*Artocarpus incisa*) may also be seen here; originally from the

islands of the Pacific, it was introduced into the West Indies in the latter part of the eighteenth century.

Several interesting tall vines climb on the pillars of this house, among them the night-blooming jessamine (*Cestrum Parqui*) of tropical America, which opens its flowers after dark and exhales a delicious perfume, the flowers remaining open during part of the morning; Henderson's *Allamanda*, of Brazil, with its showy large yellow flowers, climbs to the roof.

House No. 5. The plants in this house are from desert regions. Especial attention is called to their fleshy stems or leaves which serve as storage organs for a water supply to carry them over periods of drought. On the right hand bench, as one enters from No. 4, are mainly plants from southern Africa: the carrion flowers (*Stapelia*), relatives of our common milkweed of the roadsides; *Aloe*, *Gasteria*, *Haworthia*, and other South African representatives of the lily family.

The central bench is entirely devoted to the cactus family, which, with few exceptions, is American. Nearly all these plants are devoid of leaves, these organs, when present, being mostly small and inconspicuous; in the genus *Opuntia* they are usually present on the young growths as awl-shaped bodies, while in some few species they are much larger and remain for some time; in the genus *Pereskia*, specimens of which will be found in house No. 7, the leaves are large and well developed. The stems of the cacti are fleshy and assume a great number of forms; in *Opuntia* the stem is composed of joints, either cylindric or broad and flattened. In *Cereus* the stems are angled; in *Carnegiea* they are thick massive columns with many longitudinal ribs; in *Echinocactus* the plant-bodies are but little elongated, or almost globular, while in other genera the plant-body is covered with rows of spirally arranged projections. The flowers of many cacti are exquisite in form and color; they are borne on various parts of the plant-body, in the turk's-head cactus on a curiously modified portion of the top. A plant of economic interest here is

Nopalea coccinellifera upon which the cochineal insect breeds; it is from these insects that the dye cochineal is obtained.

On the remaining side bench is the stone-crop family, represented by many interesting and beautiful forms. The *echeverias* from Mexico and Central America, and the *sem-pervivums*, or house-leeks, from the Old World, are conspicuous among these. Many of the stone-crops are hardy plants and a collection of these may be found at the herbaceous grounds. Only a few cactuses are hardy. A large number of the specimens belonging in this house and the next may be found during the summer in beds in the conservatory court.

House No. 6. This is also a desert house. On the two corner benches to the right, as one enters from No. 5, is a collection of century plants (*Agave*), a large genus known only from the New World; other and larger plants of this same genus may be found in the central portion of the house. Conspicuous among these are: the thread-bearing agave, Queen Victoria's agave, the sisal plant (*Agave sisalana*); and the common century plant (*Agave americana*). The first two are decorative and curious; from *Agave sisalana* is manufactured the sisal hemp of commerce; the last, *Agave americana*, is well known, and it is from the sap of related species that the Mexican drink "pulque" is obtained by fermentation. It is popularly believed that the century plants flower but once in a hundred years, and then die; it is true that the plant dies when done blooming, but it blooms at a much earlier age than a century, sometimes when but eight or ten years old, it is said. A curious desert plant among the century plants on the side bench is called by the natives of Mexico, its native country, "huariquei" (*Ibervillea sonora*); during the rainy season green stems arise from these large woody plant-bodies, which at other times remain in a resting condition.

A group of the lily family may be found in the central portion of this house. This comprises members of the genera *Aloe*, *Yucca* and *Dasylyrion*. A group of cacti may also be

seen here, the most imposing figure of which is the giant cereus, *Carnegiea gigantea*, known as "sahuaro" by the Mexicans and Indians of its native country, Arizona and Sonora. The plants here shown were obtained by an expedition sent to those regions by the Garden in 1902, and they represent perhaps the largest specimens in cultivation in the east. Several large specimens of the hedgehog cactus, secured at the same time, form part of this group. The Indians in the desert often secure a supply of drinking water from these plants by cutting off the top and macerating the interior substance. A number of other large and rare cacti secured by a Garden expedition of 1906 have recently been added to this collection. On the remaining corner benches may be found the fig marigolds, from southern Africa, desert members of the pineapple family, and representatives of the spurge family.

House No. 7. Many families are shown here, the representatives of which are tropical. The members of the mimosa and senna families, largely represented in this house, are curious in their sleep movements; as daylight wanes the leaves begin to droop and the leaflets to fold up. Belonging to the senna family may be mentioned: the logwood tree (*Haematoxylon campechianum*), widely distributed throughout tropical America; the copaiba tree (*Copaiva officinalis*), one of the trees from which copaiba is obtained; and the tamarind tree (*Tamarindus indica*), valuable for its fruit. In the mimosa family the humble or sensitive plant (*Mimosa pudica*), whose leaves fold at the least touch, is of peculiar interest. The mahogany tree (*Swietenia Mahagoni*), and the cocaine plant (*Erythroxylon Coca*), from South America, are important economic plants. In the custard-apple family are the cherimoyer (*Anona Cherimolia*), and the sour sop (*Anona muricata*). The mammee-apple is another tropical fruit, belonging to the gamboge family. The spurge family is represented in several curious forms, many of them much resembling members of the cactus family; while others bear large leaves, as is the case in the chenille plant, or Philippine

medusa (*Acalypha hispida*) ; belonging to this family also is the plant bearing physic or Barbados nuts (*Jatropha Curcas*). The showy genus *Codiaeum*, commonly known as crotons, also belongs to the spurge family. Members of the cactus family, represented by several genera, especially of kinds growing naturally on trees in tropical forests, will be found near the spurge family. Decorative members of the ginseng family are also in this house.

House No. 8. As in house No. 7, the plants assembled here are of miscellaneous interest. The madder family is present in showy forms of ixoras, hoffmannias and rondeletias. There are striking forms of the potato family; also attractive representatives of the gesnerias, in the African or Usambara violet, and several forms of the genus *Trichosporum*, excellent basket plants. On the north side bench may be found a collection of begonias in many forms, ranging from the large-leaved *Begonia nelumbifolia*, of the West Indies, to the small-leaved *B. foliosa*, from Colombia, and the dainty little *B. rotundifolia*, known only from the island of Haiti, and for many years lost to science. The showy foliage forms of *Begonia Rex* are present in great variety. Among the more noteworthy economic plants are the ramie plant (*Boehmeria nivea*), a native of China, from the fiber of which the so-called grass-cloth is woven.

House No. 9. This is the aquatic house, and plants which find their homes in the water or require much moisture are brought together here. From the bridge spanning the pool the various features may be readily observed. Fringing the pool on the right, as one enters from house No. 10, are members of the sedge and grass families, while on the left hand side the fringe is made up entirely of grasses, largely of the graceful bamboos. Of special interest among the sedges is the Egyptian paper-plant (*Cyperus Papyrus*), from which many of the ancients obtained their writing paper. Among the grasses by far the most important is the sugar cane (*Saccharum officinarum*) ; from the lower portions of its stalks the juice is extracted by pressure, and from this juice

sugar is manufactured. Among the plants in the pool are many with attractive flowers; conspicuous among these being water-lilies (*Castalia*), of which there are several different kinds; the water hyacinth; the parrot's-feather, with its delicate feathery masses of green; the water poppy; the water snowflake; the water lettuce, a member of the aroid family; the floating fern; and some odd little plants related to the ferns, members of the genus *Salvinia*.

House No. 10 contains specimens of the aroids, represented by a large number of different species. The plants of this family (*Araceae*) are mostly of tropical distribution, but they are represented in our northern flora by the skunk cabbage, the jack-in-the-pulpit, and the sweet flag; the most familiar one in cultivation is the calla lily (*Zantedeschia aethiopica*), not botanically a lily. The plants all have spikes of very small flowers closely massed together, and usually subtended by a broad leaf-like structure which is known as the spathe; this is usually highly colored, pure white, yellow, red or scarlet, and is commonly thought of as the flower, though not botanically so; species of *Anthurium*, known as tail-flowers, are abundant in the West Indies and tropical America, as is the genus *Philodendron*, signifying tree-loving, on account of many species being vines climbing high on the trees in tropical forests; numerous species have underground stems and branches which contain much starch and are cultivated in the tropics for food, under the name of yautias and taras. Plants of the same family, too large for exhibition in this house, may be found in house No. 4. This house is occupied also by plants of the pineapple family. These are mostly plants which live on the trunks and branches of trees in tropical forests, and are therefore called epiphytes, signifying plants growing upon other plants; many of them are exceedingly beautiful in foliage and in flower; the so-called Florida moss, or Spanish moss, clothes the trees of the live-oaks in the southern Atlantic States, and is not a moss at all, but a plant bearing small flowers which show its relationship to others of this family. The pineapple itself, doubtless the

most familiar member of this group, has been cultivated in tropical regions for an indefinite period for fruit, and is not certainly known in the wild state; the pineapple fruit is the ripened bunch of flowers which forms at the top of the stem; the plant is propagated by cutting off the tuft of leaves, which is found on the top of the fruit, and by suckers which sprout from the side of the plant near the ground; it is an exception to the tree-loving habit of most of the family, in growing on the ground, and is cultivated in the Bahamas and on the Florida Keys, often in very rocky soil. One of the very spiny-leaved species, *Bromelia Pinguin*, is widely utilized as a hedge plant in the West Indies. Hanging from the rafters on both sides of this house may be found baskets containing the East Indian pitcher-plants, *Nepenthes*; these are mostly vines, growing naturally on trees, their leaves curiously modified at the ends into hollow structures provided with lids and technically known as pitchers, which are often wrongly regarded as the flowers; these pitchers contain water and secrete from their sides a glutinous liquid which digests insects that fall or crawl into the pitchers; this form of nutriment is apparently not necessary at all, however, to the growth of the plants; the flowers are small but borne in large clusters arising from the stems and may often be seen in this collection.

House No. 11. Here are brought together many kinds of tropical plants belonging to the banana, ginger and canna families. There are also here a few plants of the pineapple family too tall to be shown on the benches in house No. 10. The collection of bananas and their relatives occupies the greater part of the space and one or more of the specimens is usually in fruit; the collection contains both the edible, commercial bananas and the plantains, and also several species whose fruit is not edible, but whose interest lies in their decorative leaves and flowers. The stems and leaves of all these plants contain some fiber, which is produced in enormous quantities in the Philippine Islands from *Musa textilis*, and is the well-known Manila hemp. The supply of fruit for the United States comes mostly from Central America

and the West Indies, and some from northern South America. Bananas will grow in southern Florida, but the rocky soil of that region is not well adapted to their cultivation. The traveler's tree, from Madagascar, is shown in several fine specimens, and gets its English name from the fact that the axis of each long leaf-stalk contains a great deal of water which can be tapped and drunk. The bird-of-paradise plants, which take their name from their gaudy flowers, will be found in this group; they are natives of southern Africa and belong to the genus *Strelitzia*. Another genus of the banana family, *Heliconia*, is also represented by several species, called wild plantains, natives of tropical America.

Here also may be found several species of the genus *Costus* and of other genera of the ginger family, including the ginger plant (*Zingiber Zingiber*).

House No. 12. The plants in this house, as well as those in house No. 14, are mostly natives of warm-temperate regions, and are arranged in botanical sequence, with a view to furnishing a collection for the comparative study of plant families and genera; to make this as complete as possible, as many representatives of families and genera are brought together as space and cultural conditions permit. Cultural requirements necessitate placing the ferns and their allies somewhat out of their sequence position, at the south end of the west side bench. The east side bench is devoted to the pine family, the yew family, and to the endogenous plants, the last named terminating with the orchids, next the banana house. The sequence of exogenous plants begins on the west side bench, as one enters from house No. 13, crosses to the central bench at the ferns, and continues around that, ending in this house with the loasa family, near the fern house. The sequence is then continued in house No. 14, beginning with the mezereon family on the north side bench, at the entrance from house No. 13, continuing around the central bench and ending with the thistle family on the end of the south side bench near the entrance to house No. 13.

Among the more interesting species on the west side

bench are many Australian plants, represented by grevilleas, hakeas, and others; a group of insectivorous plants may also be found here; among these are the pitcher plants (*Sarracenia*) in several species; the pitchers contain a liquid in which the insects are drowned, the fluid resulting from their decay being absorbed by the pitchers; these structures form a part of the leaves and are a modification of the petiole. The sundews (*Drosera*) secrete a sticky substance from the gland-hairs on their leaves, which can digest insects and other animal matter. On the central bench may be found a group of the rue family; to this belong, among others, the oranges and lemons, of which a number of small specimens are here, others being placed in house No. 13. A peculiar plant of this family is *Agathosma apiculata*, of southern Africa; its leaves are full of glands which secrete an oil exhaling a disagreeable odor quite apparent at times. On the east side bench are members of the lily family and the amaryllis family, with many other endogenous plants, including a collection of orchids which grow in warm temperate regions or in the mountainous sections of the tropics. In the yew family, perhaps the most interesting are two small plants of the "stinking cedar" (*Tumion taxifolium*) so-called by the natives where it grows; it is known to occur in a wild state in a small area along the Apalachicola River in Florida.

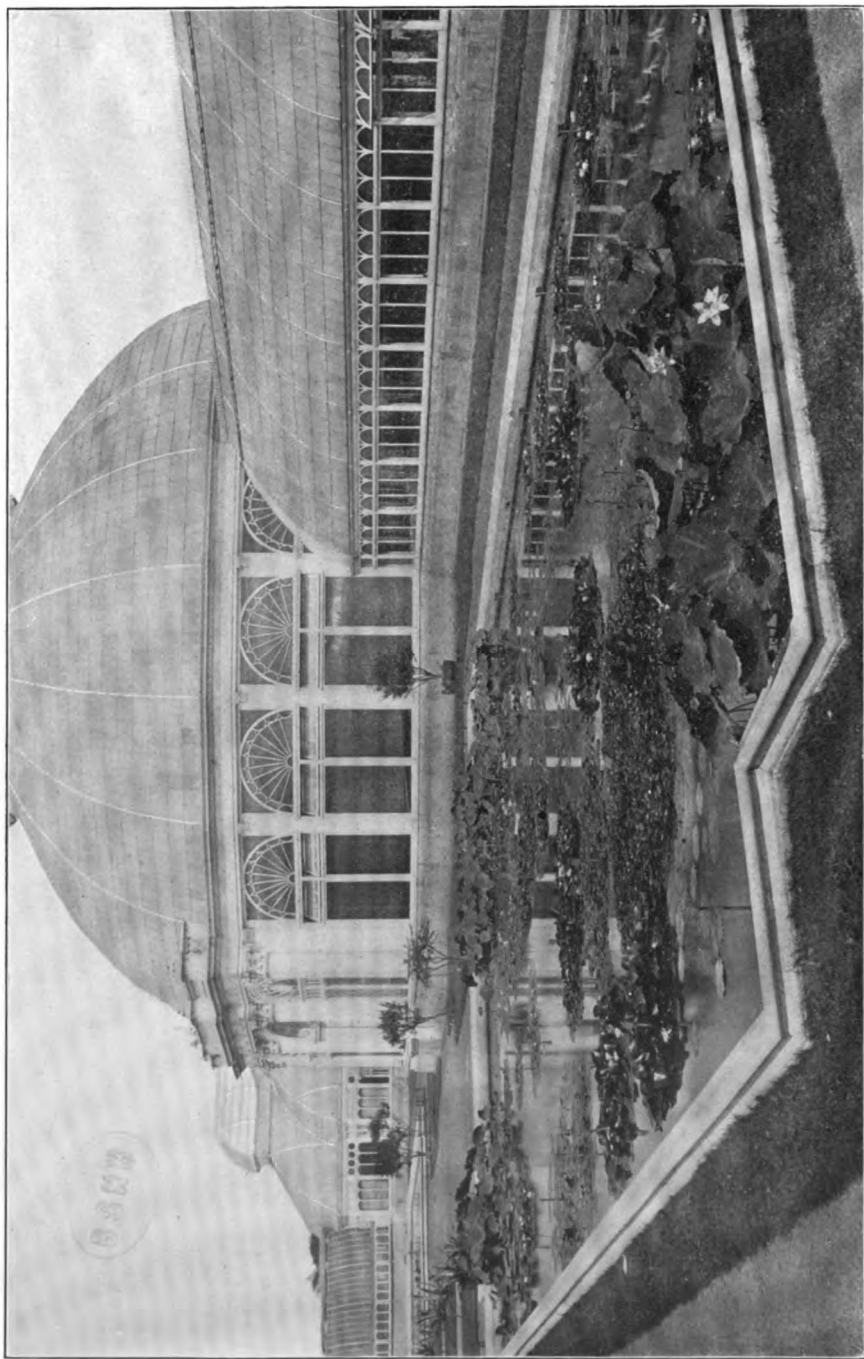
House No. 13. This house contains such plants of warm-temperate regions as are too large for proper exhibition in houses 12 and 14. The endogenous plants may be found on the side next house No. 14; the remainder of the house is occupied by exogenous plants. Opposite the entrance from house No. 14 is a group illustrating the pine family and the yew family. The most conspicuous objects among the former are the araucarias, which take the place in the southern hemisphere of the pines in the north; *Araucaria brasiliiana* and *A. Bidwillii* are prominent among these; the common Norfolk Island pine (*Araucaria excelsa*) is shown in several large specimens. To the right of this, across the path, will be

found specimens of the New Zealand flax (*Phormium tenax*), and on one of the trellises in the rear is a vigorous plant of the Cherokee rose. To the left, a little beyond the pine family, is the myrtle family; prominent in this is a group of the gum-trees of Australia and Tasmania (*Eucalyptus*); these trees occur in large forests, and sometimes attain a height of 200 to 400 feet. A large specimen, some ten or twelve feet tall, of the bottle-brush tree (*Callistemon citrinus*) will be found here; the red flowers are borne in long cylindric clusters, much resembling a common bottle-brush, whence the popular name. Farther to the left is a large plant of *Hydrangea hortensis*; this presents a gorgeous show of blue flowers early in the summer. In the corner to the right is a specimen of the camphor tree (*Cinnamomum Camphora*), from which the camphor of commerce is derived. Opposite the camphor tree is a group containing the common garden camelia, and the important commercial plant, *Thea sinensis*, from which is obtained our beverage tea; black and green teas are obtained from the same plant, the difference in color being due to the method of preparation; the tea plant is extensively cultivated in many warm and tropical countries, tea as a beverage having been used by the Chinese from time immemorial; its first introduction into Europe is said to have been by the Dutch in 1610. Further along to the left, beyond the group of Australian acacias, of which there are many specimens, are several plants of the fig tree (*Ficus Carica*), from which the edible figs are secured; the leaves drop off in winter, and so for a short time the plants are placed elsewhere. A little beyond these to the left may be found a group of oleanders; a poisonous principle occurs in the flowers and leaves of these plants, and especially in the bark. A plant of great economic importance in the olive family is the olive tree (*Olea europaea*), of which a small specimen may be found near the oleanders; this plant was originally from the Mediterranean region and the Orient, but has now been largely introduced into cultivation in other warm countries; in the middle of the eighteenth century it was first introduced into

California, at San Diego, it is said, and is now largely cultivated in southern California. On one of the columns near the olive is a fine plant of *Bougainvillea*, a native of Brazil; the bracts which surround the small flowers are bright magenta colored; when in full bloom the plant makes a gorgeous show. On one of the trellises back of the group of the amaryllis family is a plant of the yellow jessamine (*Gelsemium sempervirens*) of the south; it sends out its pretty flowers usually in February, and they persist for several weeks. In this house may also be found a number of palms. Among these may be mentioned the characteristic fan-palm of the California desert (*Neowashingtonia robusta*), and the palmetto (*Sabal Palmetto*), of our southern States. A few temperate tree-ferns are also placed here.

House No. 14. The general arrangement of this house was mentioned when describing house No. 12. Entering from house No. 15, to the left may be found plants of the rosemary; this enjoys a reputation of long standing, for it was held in high esteem by the ancient Greeks and Romans, being regarded by them as the emblem of fidelity. A little further to the left is the parachute flower (*Ceropegia Sandersoni*), from Natal. On the right are many interesting members of the thistle family. On the other side of the house may be found *Aucuba japonica*, from Japan, and *Corokia Cotoneaster*, from New Zealand, both members of the dogwood family, but not much resembling our common flowering dogwood. Other plants of interest may also be found here.

House No. 15. The orchid family, to which this house is devoted, is a widely distributed one, occurring in all tropical regions, but finding its greatest development in the Old World in India and the Malayan region, while in the New World its greatest numbers occur in Brazil and other parts of northern South America. In temperate regions relatively few species are found, while in very cold countries they are entirely absent. Most of the tropical forms are epiphytes, that is, they grow upon trees and usually have bulb-like or thickened stems and fleshy leaves for the conservation of



COURT OF PUBLIC CONSERVATORIES, RANGE I.

their water supply, as, from their habitat, this supply must be precarious. In temperate regions nearly all of the species are terrestrial, and have thin leaves, the soil about their roots serving to protect them from the cold and also giving them a more constant water supply: they do not, therefore, need pseudobulbs or thickened stems. Coming from all parts of the world as they do, their blooming time varies greatly, so that at almost any time of the year, be it winter or summer, some of these interesting plants may be found in bloom.

On the central bench is an interesting palm, the double cocoanut (*Lodoicea maldivica*), a native of the Seychelles Islands, also known as the coco de mer, and coco des Maldives, and one of the rarest palms in cultivation; in the specimen here shown the upper portion of the seed may be seen projecting above the soil. The tree in its native wilds attains a height of ninety feet, bearing aloft a magnificent crown of green leaves which make it an important feature of the landscape. This is the only plant in this house not a member of the orchid family; it is kept here for cultural reasons.

Conservatory Court. There are two attractive features here during the open season, viz., the water lily collection and the collection of desert plants. The water lilies may be found in two tanks, one in each end of the court. In the easterly tank are placed the hardy sorts, such as are able to withstand the severe cold of our winters, which remain permanently where they are, winter and summer. In the westerly pool are the tender kinds, or such as require protection during the winter, and many of these are stored in a warm cellar during winter and placed on view again in the spring. The most conspicuous of the tender sorts are the royal water-lilies from South America; these are not hardy in this climate, and, as they are too large to protect from the cold, they are grown anew from seed each year; the seeds are sown in the propagating houses late in winter, and the young plants placed on view late in the spring or in early summer.

In summer the collection of desert plants is in three beds in front of the entrance to house No. 1. The central bed contains American desert plants only, made up largely of members of the cactus, amaryllis and lily families; in the easterly beds will be found desert plants from southern Africa. In the western bed are representatives of the orpine family.

Conservatory Flower Beds. To the north of the conservatories, occupying a portion of the area below the terrace, are several large plots devoted to a miscellaneous display of shrubs, evergreens and herbaceous plants. Attractive flowers may be seen here from the earliest spring until late autumn, while the evergreens make a pleasing effect during the winter. The herbaceous plants are plainly labeled, thus adding much to their interest for the visiting public.

Range No. 2

This range, four houses of which have been constructed, is located on the easterly side of the grounds, in the midst of the deciduous arboretum. The completed portion consists of a transverse range, running east and west, divided into three compartments, and a smaller house at right angles to this range. The tropical ferns and their allies and the cycads are exhibited here.

In the easterly compartment of this transverse range the collection of sago palms or cycads has been installed. This family of plants is represented by large specimens of *Cycas revoluta*, from Japan; by *Cycas circinalis*, from the Molucca Islands; by a single plant of the rare *Stangeria eriopus*, from southern Africa, where it is known as the kaffir's-head; by a number of specimens of the genus *Zamia*, including the small Florida counties; and by the Kaffir-bread (*Encephalartos*), two species, from Africa; the stems and trunks of plants of this family contain much starch, which is extracted, in the countries in which they grow, by crushing and washing, and pass into commerce under the name of sago starch.

In the middle and westerly houses of the transverse range

may be found the tropical tree-ferns and the larger specimens of the low ferns and fern-allies.

The graceful tree-ferns usually inhabit the mountains of the tropics, commonly at an elevation of 1500 feet or more. Many of the plants here have been secured by Garden expeditions to different parts of the American tropics. Another feature of interest is the collection of staghorn-ferns, hanging over the walk in the center house; the application of the common name staghorn is quite evident in several of the species. Suspended from the roof in baskets are many desirable ferns. A fern from China and Tartary, known as the Scythian Lamb (*Cibotium Barometz*), may be found here; it is of interest as forming the basis of a marvellous tale, current in early times, to the effect that on a vast plain to the eastward of the Volga occurred a wonderful plant, looking like a lamb; this animal, so the story ran, was supported upon a stalk and as soon as it had exhausted the vegetation at hand died from starvation.

In the small house may be found a collection of tropical ferns arranged in botanical sequence, thus bringing closely related families and genera into juxtaposition and enabling a comparative study of these plants to be made. It is only possible to represent in this sequence the position of the tree-ferns by very small specimens. These may be studied to better advantage in the larger houses.

Power Houses. Steam for heating the conservatories, range 1, is supplied from the power house, located near the New York Central Railroad just south of the 200th Street entrance and connected with the conservatories by a subway about six hundred feet long containing the steam mains; five boilers are installed and supply steam not only to the conservatories, but also to the museum building through another subway about twelve hundred feet in length.

Steam for heating the conservatories, range 2, is supplied from a boiler house near this structure, a little to the north.

2. The Botanical Museum

The Museum Building has a frontage of 312 feet, and in so far as now constructed, a depth of about 90 feet; the plan of this building contemplates its future extension toward the rear, so as to form a quadrangle enclosing a court. The architectural style of the building is Italian Renaissance. The walls are of light-colored brick and the trimmings of terra-cotta. It has a steel frame and concrete floors. Three floors are devoted to public exhibits, while the upper floor contains study rooms, the library, laboratories and herbarium, which may be used and consulted by permission.

The building is approached by two straight driveways and accompanying sidewalks leading from the main park driveway near the New York Central Railroad station; this front approach to the building is ornamented by a bronze fountain executed by the sculptor Carl E. Tefft, and by terra-cotta fountains and marble seats designed by R. W. Gibson, the architect of the building. The vista lines are formed by four parallel rows of trees.

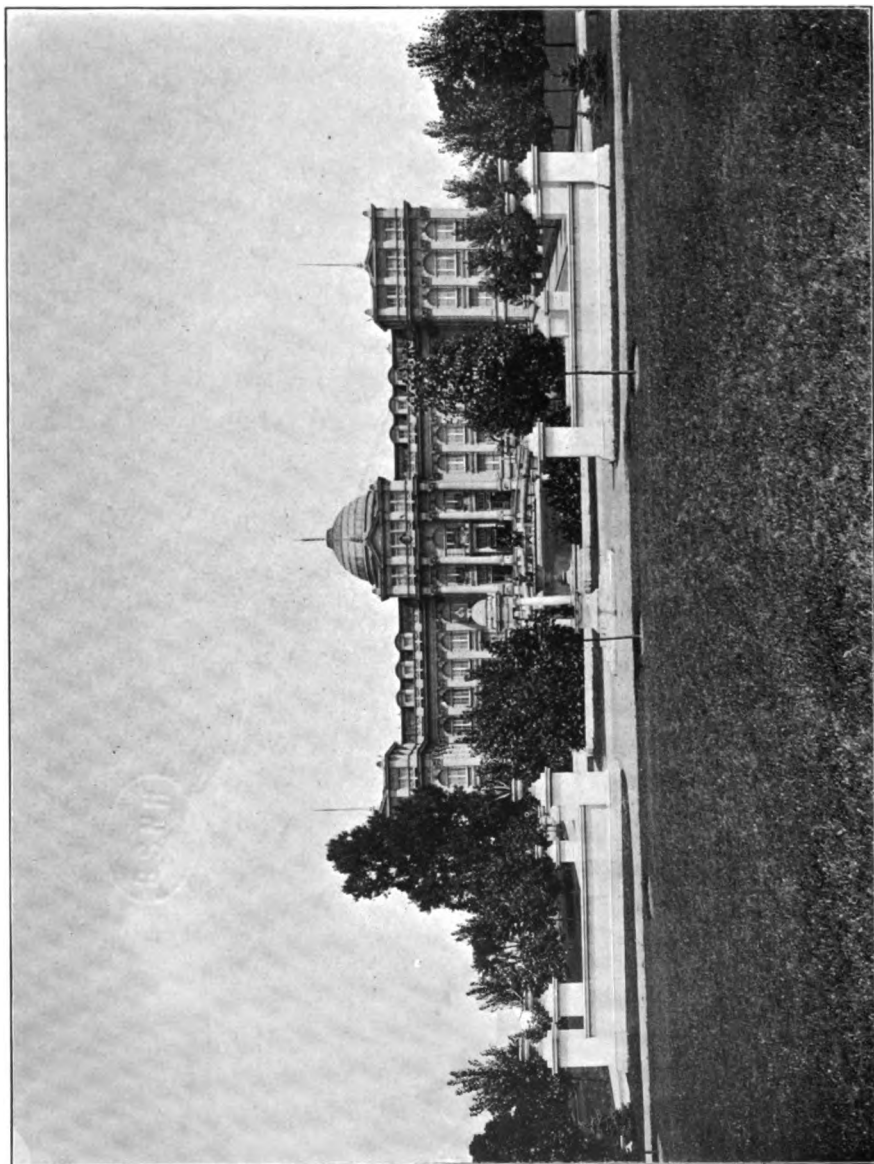
The public collections in this buildings are:

1. THE MUSEUM OF ECONOMIC BOTANY

This occupies the entire main floor, and here are brought together both crude and refined products of plants used in the arts, sciences and industries, illustrated also by photographs and drawings. The specimens are arranged as products, including food, drugs, fibers, gums, resins, sugars and others as indicated by the accompanying floor plan.

The arrangement of the larger groups is as follows: Foods and fibers occupy the west hall, the former in cases on the north side, the latter on the south. The west wing is mainly given over to exhibits other than foods, fibers, drugs and woods. The east hall contains the drugs, while the east wing is set aside for the woods and wood products, and for a collection illustrating North American dendrology.

Fibers. Cases 1 to 18.—In the first case of the series



THE MUSEUM BUILDING

devoted to fibers may be found cotton, the most important of the vegetable fibers. It is derived from the fruit of the cotton plant (*Gossypium*), being the hairs that cover the surface of the seeds. The fruits of several different kinds of cotton may be seen with the cotton bursting from the capsule, while some of the many different products are also shown.

The fiber of many other plants, derived from the leaves, stem, bark, roots and other organs, is of great economic importance and is used, either in practically its natural condition, as may be seen by the specimens of fans, hats, boxes, bags, baskets, mats, matting, crude ropes, brooms, ornaments and toys, or it is manufactured into articles of commerce after processes which remove it considerably from its natural aspect or condition; for example, linen, which is made from the flax, plant; cloth, twine and rope, from jute, hemp and abutilon fiber; and paper made from wood and other fibers.

India Rubber and Allied Products. Cases 19 and 20.—The first case in the west wing contains india rubber and allied products. Here are the implements and utensils used in collecting the rubber "milk" from the trees which grow in the tropical forests. Rubber is derived mostly from trees belonging to the mulberry family, spurge family and dogbane family.

Several varieties of rubber may be seen in the different stages of refinement, together with some articles as manufactured for the market. Here, too, is an allied product, gutta percha, which is derived from the trunks and foliage of certain trees belonging to the sapodilla family. These trees grow in many portions of the tropics.

Resins. Cases 21 and 22.—The cases devoted to resins contain on the one hand a large trunk of the long-leaf pine, with a turpentine box, together with a series of specimens of turpentine and resin, illustrative of the trade-classification of these products, and, on the other hand, a series of resins derived from other species of pine and related trees, and also those from trees representing the mulberry family, the mimosa family, the sumac family and the myrrh family.

Spices and Flavoring Agents. Cases 23 to 26.—These substances form quite a large series in which is shown the parts of the plant that yield spices and flavoring extracts; for example, licorice is extracted from the roots of the licorice plant. Ginger is a rootstock, the underground stem of the ginger plant; cinnamon is a bark; bay, sage, mint, thyme are leaves; cloves are flowers; coriander, allspice, black pepper, celery seed, caraway seed, vanilla bean and tonka bean are fruits; mustard and nutmeg are seeds, and mace is the outer coat of the nutmeg.

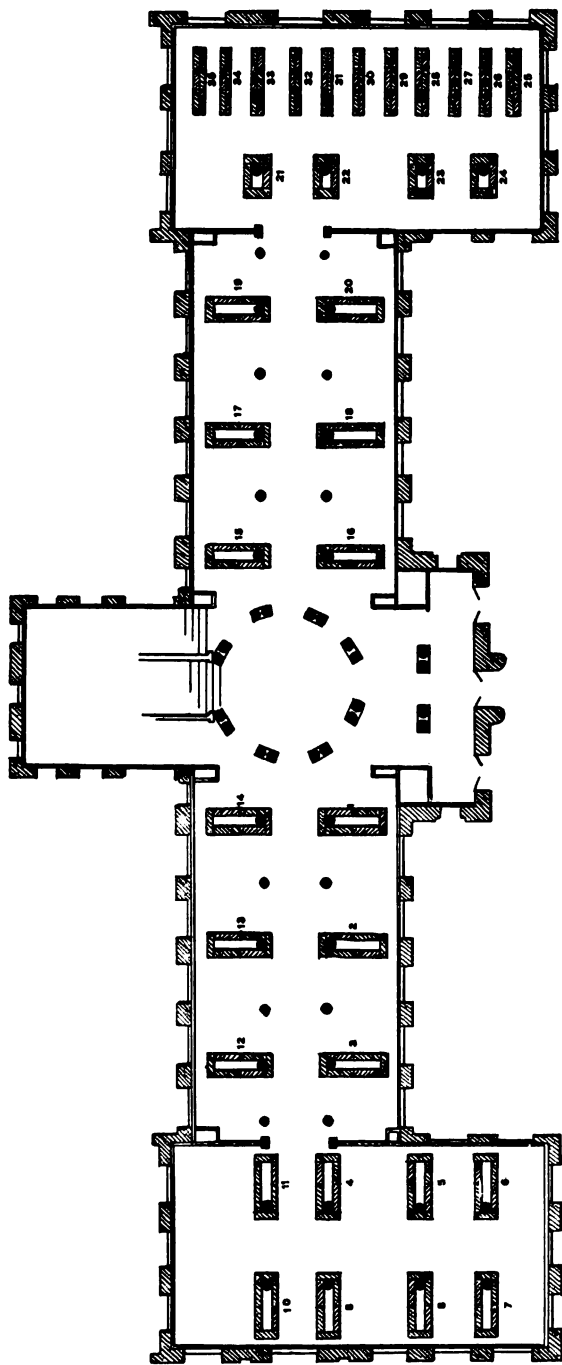
Dye Stuffs. Case 27.—The dye stuffs are represented by logwood, madder, alkanet root, indigo and oak galls.

Tanning Materials. Cases 28 to 30.—The tanning materials are also very important from an economic standpoint; they are represented by saw-palmetto, mangrove, pine, hemlock and sumac. The crude materials of the mangrove and the saw-palmetto are accompanied by the fluid extract which contains the tannic acid and also by the spent material or refuse which remains after the extract has been made.

Fodder Plants. Cases 31 and 32.—Following the spices are fodder plants, which are shown as sheaves, and consist of grasses, sedges, bush-clovers and related plants.

Tobaccos and Masticatories. Cases 33 to 36.—Tobaccos are shown by a series of bundles of the cured leaves of the tobacco plant (*Nicotiana*) from different parts of America, and a series of articles as prepared for the market. Closely associated with tobacco are the masticatories or substances used for chewing. One of the most widely known forms is chewing gum, which is made by refining the crude chicle-gum, which is the hardened milky juice of the sapodilla and related plants. In rural districts the exudation of resin found on the bark of conifers is used for chewing while still in the crude condition, but this substance is now refined and sold in our larger cities just as is the now more commonly used chicle-gum. An adjacent case is given over to:

Beverages, including Chocolate. Cases 37 to 41.—Beverages are represented by both the non-alcoholic, as coffee,



FLOOR-PLAN, MUSEUM OF ECONOMIC BOTANY

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| 1-3. Cases 1-18. Fibers. | 7. Cases 40 and 41. Beverages. |
| 4. Cases 19 and 20. India Rubber and Allied Products. | Case 42. Miscellaneous Specimens. |
| Cases 21 and 22. Resins. | 8. Cases 43-48. Fixed and Volatile Oils. |
| 5. Cases 23-26. Spices and Flavoring Agents. | 9 and 10. Cases 49-60. Plant Constituents. |
| 6. Case 27. Dye Stuffs. | 11. Case 16. Starches. |
| Cases 28-30. Tanning Materials. | Cases 62-64. Cork and Paper. |
| Cases 31 and 32. Fodder Plants. | Cases 65 and 66. Sugars. |
| 7. Cases 33-36. Tobaccos and Masticatories. | 12-14. Cases 67-84. Foods. |
| Case 37. Chocolate. | 15-20. Cases 85-102 and 185-202. Drugs. |
| Cases 38 and 39. Coffee. | 21-35. Cases 103-184. Woods and North American Dendrology. |

tea, maté or Paraguay tea, Jersey tea and fruit juices, and the alcoholic and malt beverages, as wine, beer, ale and porter. In the block of cases devoted to beverages may be found chocolate, which is derived from the seed of the chocolate tree (*Theobroma*). The collection shows the chocolate fruits, the principal commercial varieties of the seeds, unroasted and roasted, nibs of different degrees of fineness, germs, cocoa-liquor, cocoa-butter, cocoa-cake, and the same ground into "breakfast"-cocoa, with several varieties of confectioners' chocolate, as put up for the market.

Miscellaneous Specimens. Case 42.—In this case may be seen the substances used in the manufacture of soap, insect powders and related substances.

Fixed and Volatile Oils. Cases 43 to 48.—The volatile oils form a large series, and in their manufacture various parts of the plants are used; for example, roots are used to make the oils of lovage-root, elecampane and muskroot; rootstocks furnish the oils of calamus, ginger, orris root and wild ginger; herbage is the source of the oils of pennyroyal, tansy, spearmint and peppermint; wood furnishes the material to make the oils of red cedar wood and sandalwood; bark is the source of the oils of birch, cinnamon and sassafras; leaves yield the oils of hemlock, spruce, pine, cedar, eucalyptus and wintergreen; flowers yield the oils of cloves, lilac flower and orange flowers; fruits yield the oils of pepper, lemon, caraway and fennel; seeds furnish the oils of mustard, wormseed, nutmeg and almonds; while resins give us the oils of elemi, mastic, myrrh and frankincense.

The fixed oils, at least from a commercial standpoint, are less numerous than the volatile oils, and those in common use are mostly derived from the fruits and seeds of plants; for example, olive oil is contained in the fruit of the olive, linseed oil is contained in the seed of the flax plant, castor oil is stored up in the seed of the castor oil plant and cotton oil abounds in the cotton seed. Fixed oils differ from volatile oils in not completely evaporating when exposed to the air. In many cases the by-products resulting during the manufac-

ture of the various oils are of considerable commercial importance. Some of these by-products are shown in the cases with the oils.

Plant Constituents. Cases 49 to 60.—This exhibit consists of a series of alkaloids, acids, glucosides and amaroids, albuminoids, resinoids and enzymes. These substances plants store up in their tissues, or in the tissues of one or more organs, and from them they are extracted for use in all branches of the arts, sciences and industries.

Starches. Case 61.—Starch, as in the case of many other substances, exists in and is consequently derived from the several organs of various plants, for example, the roots of the cassava plant furnish the cassava flour and tapioca, while those of coontie yield coontie flour which is quite similar to sago, and those of the sweet potato plant furnish sweet potato flour. The rootstocks of the common potato plant abound in potato flour, while those of the arrow-root plant yield arrow-root flour. The stems of some of the sago palms and those of some of the true palms are the sources of sago flour. The fruits, both dry and fleshy, of a great variety of plants, contain starch; for example, those of the several grains, wheat, rye and corn; while those of the banana yield the less common banana flour. The seeds of some plants are used as a source of starch, as for instance, those of the chocolate plant.

Cork and Paper. Cases 62 to 64.—Cork is the light outer bark of the cork oak tree, a tree indigenous to southern Europe. The substance, as we are accustomed to see it, is prepared by means of boiling the cork bark and scraping off the rough outer portion. The crude cork and many manufactured articles are shown in case number 49, and a large jacket of crude cork is exhibited near by, just as it was stripped from the tree.

Wood fiber, especially that obtained from the trunks of the spruce and poplar, enters largely into the manufacture of paper. In cases 48 and 50, the fiber is shown in its crude condition and in the various stages of refinement, as well as

the various qualities of paper into the structure of which it enters. Here also are the several stages and substances connected with the production of straw paper.

Sugars. Cases 65 and 66.—Sugar is a very important plant-product and it is of vast economic value. Sugar cane (*Saccharum*) is the basis of the world's sugar supply. The juice from the stems of the plant is boiled down and by other processes is made into the principal crude products shown in the cases and later into the commercial grades of sugar.

The juices of other plants are also used in making sugar, for example, in temperate regions, the sugar beet yields an enormous amount, the sap of the maple tree is made into maple sugar, while in tropical regions the sap of various palms, such as the cocoanut palm and the sugar palm, is made into palm sugar.

Foods. Cases 67 to 84.—The very important section of vegetable foods occupies the cases on the north side of the west hall, opposite those containing the fibers. Here may be seen the various plants and parts of plants commonly used for food. In a few instances nearly the whole plant is available, as in the mushroom, the morel and the truffle. Usually, however, certain parts only are nutritious or desirable; a few examples of these are as follows: sweet potatoes, horseradish, carrots and beets are roots; onions, potatoes and Jerusalem artichokes are rootstocks; asparagus and poke shoots are young stems; lettuce, beet-tops, spinach and parsley are leaves; cauliflower and calamus-buds are inflorescences; corn, rice, bananas, mulberries, gooseberries, apples, tomatoes and oranges are fruits; while peanuts, walnuts, hickorynuts, beans, almonds and chestnuts are seeds.

Drugs. Cases 85 to 102 and 185 to 202.—The east hall is given over to drugs. This, like the department of foods, is large and important. The active principles or medicinal agents are stored up in the tissues of the plant or in special organs. The great majority of refined drugs are derived from one or more of the parts of the plant, but in the case of the white agaric, ergot, Irish moss, Iceland moss, winter-

green, sundew, bitter-sweet, pennyroyal, boneset and tansy the whole plant is used.

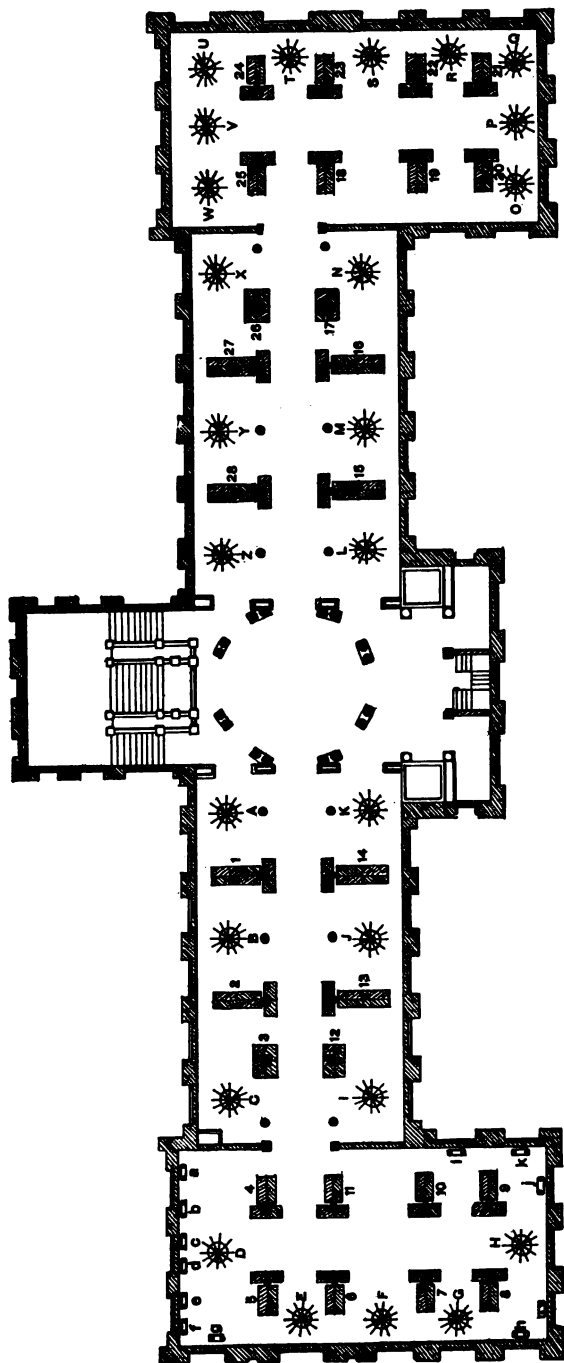
A few of the crude drugs arranged under the several plant-organs they represent are as follows: sarsaparilla, poke-root, rhubarb, aconite, queen's root, senega root, marshmallow, man-in-the-ground and ipecac are roots; calamus, ginger, colic-root, Canadian snake-root, soapwort, mandrake, American ipecac, buckbean and stonewort are rootstocks; sandalwood and quassia chips are woods; sassafras medulla is pith; birch, slippery elm, sassafras, cinnamon, wild cherry, horsechestnut, cascara, linden and cinchona are barks; laurel, hardhack, cherry laurel, peach, senna, coca and eucalyptus are leaves; red-clover flowers, orange flowers, linden flowers, heart's-ease, borage flowers, safflower, marigold flowers, Roman chamomile, German chamomile and milfoil flower are flowers and flower-heads; saw-palmetto, cardamon, cubebs, hops, star anise, poppy, rose hips, tamarind, Tonka bean and colocynth are fruits; colchicum seed, grain of paradise, betel nut, mustard, delphinium seed, almonds, calabar bean, Barbadoes nut, castor oil seed and henbane seed are seeds.

Woods. Cases 103 to 184.—The east wing is occupied by woods. The exhibits fall under two main divisions, the one consisting of a series of wood-specimens from all parts of the world, and crude wood-products such as pipes, canes, shoes, sandals, utensils and carbons or charcoals; the other being a synoptic collection illustrating North American dendrology.

2. THE MUSEUM OF SYSTEMATIC BOTANY

This occupies the entire second floor of the building and is designed to illustrate by specimens, drawings and photographs, types of all the natural families of plants, beginning with those of the simplest structure and ending with the most complex. It consists of three series of objects:

- (a) The general synoptic collection.
- (b) A series of microscopes showing selected specimens.
- (c) Illustrations of the local flora.



FLOOR-PLAN, MUSEUM OF SYSTEMATIC BOTANY

- 1-28. Synoptic Collection.
 1-8. Cases 1. Slime-moulds.
 Cases 2-16. Sea-weeds.
 Cases 17-36. Fungi.
 9-11. Cases 37-40. Hepatics.
 Cases 41-48. Mosses.
- 12 and 13. Cases 49-55. Ferns and Fern-allies.
 12-28. Cases 56-58. Cone-bearing Plants.
 Cases 59-128. Fruit-bearing Plants.
- A-Z. Local Flora.
 a-k. Microscope Exhibit.

a. Synoptic Collection. This is designed to illustrate the plant world. A series of characteristic objects is installed as a basis for illustrating each plant-family. These specimens are accompanied as far as possible by plates, drawings or photographs, while on the shelves are arranged additional objects, such as flowers, fruits, woods, specimens of fossil plants and models of various organs of plants, all intended further to illustrate the structural characteristics of the different groups. This collection is arranged according to the most natural and thus far most generally satisfactory interpretation of the interrelation of the plant-families; it may be considered as falling into two main series, namely, the flowerless or spore-bearing plants and the flowering or seed-bearing plants.

The flowerless plants fall into three subkingdoms: (1) the Thallophyta, in which the plant-body is not differentiated into stems and leaves, represented by the slime-moulds, the bacteria and other micro-organisms, the seaweeds, the fungi and the lichens; (2) the Bryophyta, represented by the mosses and their immediate relatives; and (3) the Pteridophyta, including the ferns and the fern-allies.

The Thallophyta (cases 1 to 36), may be defined as plants without true roots, stems or leaves, but notwithstanding their simple structure they exhibit an infinite variety of form and color.

The Myxomycetes or slime-moulds (case 1), standing at the bottom of the plant scale, occupy the first exhibition case placed at the right hand side of the stairway from the main floor. They are thallophytes, having neither chlorophyll nor (in their vegetative condition) a cell-wall. These very simply constituted plants usually grow upon and derive their nourishment from decaying organic substances. They vary greatly in size, some being exceedingly minute, others assuming the form of relatively large irregularly shaped masses spreading in all directions as they grow. Most of the plants are small, and the structure is very delicate, in fact some are so fragile that a mere breath of air will ruin them.

Following the slime-moulds stand the cases devoted to the algae or seaweeds (cases 2 to 16), which may be briefly defined as thallophytes with chlorophyl, the green coloring matter of plants. The plants of this series are much more variable in form than those of the preceding, and are also much more numerous. Some forms are microscopic, others attain considerable size. The first case of the series is occupied by representatives of the blue-green algae (case 2) and the diatoms. The plants of these two groups are minute, so much so that in most cases the individuals can be well seen only with the aid of a microscope. As one finds them in nature they commonly form slimy or oozy masses which are not particularly attractive to the naked eye, but under a compound microscope they are of very great interest. Following the series just mentioned are the green seaweeds (case 3), the group which includes the plants that are sometimes called the pond-scums, green slimes, green felts and stoneworts. Some of these are microscopic; however, some of the green seaweeds attain a considerable size and begin to look a little more like what are popularly termed "plants." After the green seaweeds come the brown ones (cases 4 to 8), and here the largest kinds are included. In their tissues is found a brownish pigment which obscures their green coloring matter. To this group belong the widely distributed "gulf-weed" or "sargasso-weed" (*Sargassum*) and the gigantic "great kelp" of the Pacific Ocean, which is said to attain seven hundred feet in length. The seaweeds culminate in the red algae, a group in which the plants show some shade of red, pink or purple; these (cases 9 to 16) exhibit a marvelous range of form and color. The last group of cases containing this series is given to the group of red algae which are known as the corallines, on account of their outward resemblance to the corals. These plants are thoroughly permeated with lime and are often as hard and stone-like as any coral, and build up reefs in the tropical oceans much as the corals do.

The next great type of plant life is the fungi (cases 17 to 36). These, like the plants of the preceding group, vary

greatly in size and complexity of structure; but, unlike them, they are devoid of chlorophyl, the characteristic green matter which enables other plants to build up complex food for their nourishment, and consequently they are wholly different in their mode of life. Some are parasitic, deriving their nourishment from living plants and causing enormous damage to crops; others are saprophytic, deriving it from the remains of dead organisms; while others are symbiotic, living in such relationship with chlorophyl-bearing (green) plants that they mutually nourish one another, as in the case of lichens and mycorrhizas. There are five generally recognized series here: First we have the stalked-spored fungi (cases 17 to 28). This series falls into two groups, the one typified by the "rusts" and "smuts" which are commonly parasitic on the leaves and fruits of other plants; the other the great saprophytic group, well known through the mushrooms, bracket-fungi, stink-horns and puff-balls. Second in the series is the group known as the imperfect fungi (case 29). In this group the spores are borne directly on the threads or "hyphae" which constitute the vegetative portion of the organism. They are often parasitic on the leaves and on the bark of both wild and cultivated plants. Third in this series are the spore-sac fungi (cases 30 and 31). In these plants the spore are borne in delicate membranous sacs, called asci, which in the more complex forms are collected into bodies of various shapes. The plants vary greatly in size and structure and are both parasitic and saprophytic. To this group belong the yeasts and mildews. Some plants grow above the surface of the ground, as in the case of the morel; while others are subterranean, as in the case of truffles. Next in order are the alga-like fungi (case 32); these vary in form from simple masses of protoplasm to simple or branching threads. Here belong many of the moulds and similar forms which grow both on other plants and on animals. The fifth and in many respects the most interesting of all the groups is that consisting of the lichens (cases 33 to 36). The fungi thus far considered are either parasitic

or saprophytic in their mode of life; the lichens form an independent symbiotic group, each lichen consisting of a fungus and an alga living together, the one nourishing the other. The lichens are quite familiar to most people as plants of more or less leathery texture growing on rocks, on poor soil or on the trunks of trees.

A step forward brings up to the Bryophyta, or seedless plants with roots, stems and leaves, but without vascular tissue (cases 37 to 48). This group is best known through the mosses, which form its largest division; but of simpler structure are the hepatics or scale-mosses (cases 37 to 40); although they were formerly associated with the true mosses, their tissues are much less differentiated than those of the mosses and the structure of their various organs much less complicated. The stems and leaves of the hepatic plant are sometimes combined into a flat thallus-like body which creeps closely on the ground or other objects and resembles in aspect some of the more simply organized plants. The leaves, too, are more like scales than in the true mosses and they do not have a midvein. These differences alone enable one to distinguish a hepatic from its relatives by the unaided eye or at most by the use of a lens. In addition to these characters, the capsule or the receptacle which bears the spores, or reproductive bodies, usually splits into four valves when full-grown and the spores themselves are accompanied by spiral threads called *elaters*. The favorite habitat of hepatics is wet places, and mountains continually steeped in clouds yield a surprising variety of forms. Closely related to the hepatics is the group Anthocerotales; these plants may, however, be distinguished by the presence of a central axis or column (columella) in the capsule, and there are several other important structural differences in their tissues.

The mosses (cases 41 to 48) follow the hepatics in order of development and complexity; they differ from them, however, in many respects. The stem and leaves have more differentiated tissues, and the leaves usually have a midvein. The moss capsule generally opens by a lid under which there are

commonly appendages to aid in scattering the spores, which in this case are not accompanied by spiral threads as they are in the hepatics. The mosses fall into three primary groups: First the "peat-mosses" (*Sphagnum*) which differ from the rest of the mosses in the development of the tissue-structure of the capsule and the spores; they grow in swamps and other wet places, and their accumulation forms peat. The "black mosses" (*Andreaea*) differ from both of the other groups in the valvular capsule; they grow on dry rocks. The true mosses vary exceedingly in size and aspect. An examination of the specimens in the exhibition cases will convey to the mind a better idea of this group than a description. They grow under all kinds of conditions from dry rocks to deep water. Many of the kinds grow on almost any kind of rock, earth or bark of trees, while certain ones are more particular as to their habitat. Some will thrive only on limestone, which they often gradually disintegrate and partially preserve in the masses of closely set plants as a calcareous tufa; other species prefer ground that has recently been burnt over, as species of *Funaria* and *Leptobryum*, while others grow only on the bones of dead animals or in places where animal refuse has accumulated.

Next higher in the plant kingdom is the subkingdom Pteridophyta, or ferns and fern-allies, the seedless plants with roots, stems, leaves and woody tissue (cases 49 to 55). The ferns as a group perhaps attract the attention of a greater number of people than any other group of plants. However, associated with what are usually known as ferns are the fern-allies, for example the "horse-tails" (*Equisetum*), "lycophods" (*Lycopodium*) and "quillworts" (*Isoetes*), but these are usually less conspicuous than the "ferns." Fern-plants differ from all the plants of simpler organization in having vascular (woody) tissue, that is, a system of vessels for conducting sap through the different parts of the plant-body. They exhibit an almost infinite variety of form; their stems may be underground, horizontal on the ground, or erect; the leaves are either simple or compound, and sometimes perform

both the work of foliage leaves and that of bearing the spore-cases (ferns), while in other cases some of the leaves have become changed into mere spore-bearing organs (horse-tails).

The flowering plants (cases 56 to 128) comprise a single subkingdom, the Spermatophyta, or seed-bearing plants. This extensive group seems to have followed two independent lines of development and consequently the plants fall into two well marked groups, the first being the gymnosperms, cone-bearing plants, or plants in which the seeds are borne exposed in variously shaped cones (cases 56 to 58). This is a comparatively small group, but exhibits great diversity, including plants ranging from straggling shrubs or vines to the largest trees. The leaves, too, vary from structures resembling needles or scales to expanded fern-like structures of considerable variety. In a former geological age these plants were the dominant seed-bearing plants, but now the second group of the spermatophytes largely predominates; namely, the angiosperms, fruit-bearing plants, or plants in which the seed is borne in a seed-case. These plants also existed in the later geological ages, and now form the most important and conspicuous part of the vegetation of the earth. The fruit-bearing plants (cases 59 to 128) fall into two divisions, the one in which the seed contains a single leaf, the monocotyledons (cases 59 to 71); the other in which the seed contains two leaves, the dicotyledons (cases 72 to 128).

b. Microscope Exhibit. The exhibition microscopes occupy small stands in the west wing of the second floor. In front of the windows on the right as one enters the wing are shown a few of the simplest and smallest forms of plant life. Under the first microscope is a preparation showing the vegetative condition of one of the slime-moulds, organisms in which the characteristics of plant and animal are so little differentiated that it is nearly impossible to affirm with confidence that they belong either to the one kingdom or to the other. In the vegetative stage—the stage here exhibited—the organism is strikingly similar in its essential attributes to some of the lower animals. Later, in the reproductive stage,

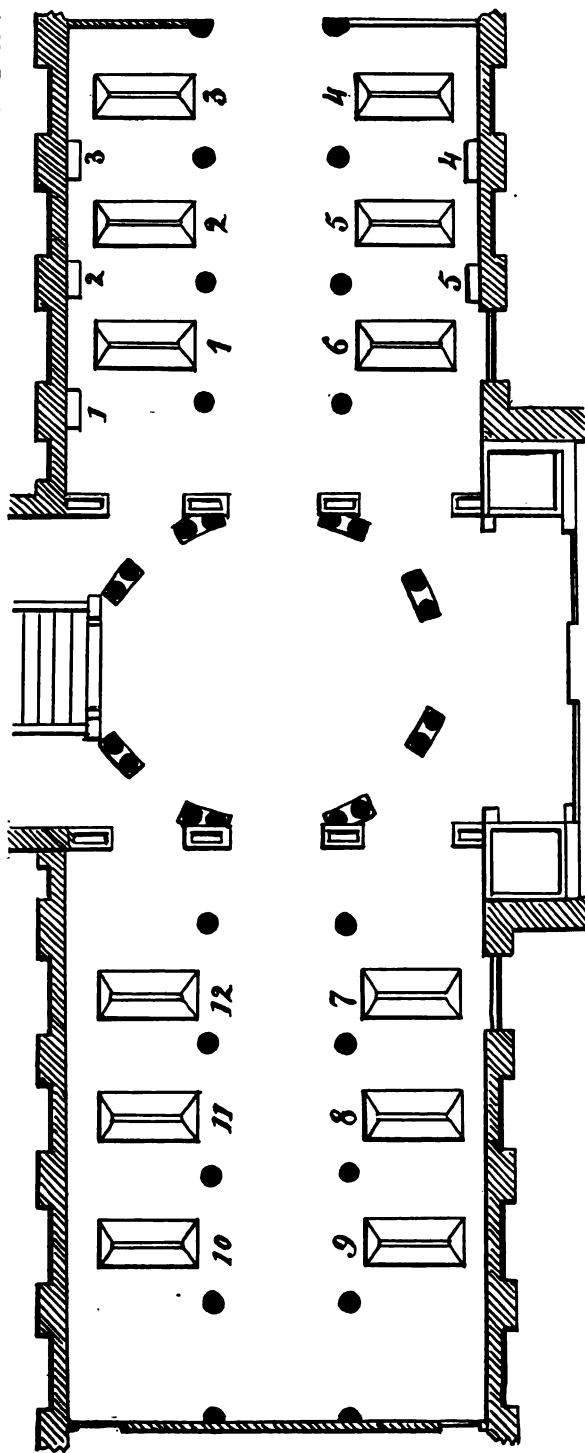
there is at least a superficial resemblance to the fungi, which are undoubted plants. By means of the second microscope the spore-bearing stage of a slime-mould may be seen. The stalks and the netted framework of the spore-case walls remain, but the spores have mostly fallen. A few of the spores, however, appearing like minute dark dots, can be detected, adhering to the network. Under the lenses of the third microscope are representatives of the diatoms—one-celled organisms, some of which have the power of animal-like locomotion. The living substance of each cell is enclosed and protected by a hard transparent glassy wall consisting of two halves, one of which fits into the other like a band-box into its cover. Following this are shown “sea mosses,” or “seaweeds,” as they are commonly known, and closely related minute plants which inhabit fresh water and belong to groups often referred to in popular speech as “pond-scums” or “ooze.” In the natural unmagnified condition, many plants of this sort seem quite the reverse of attractive, but when placed under a sufficiently powerful microscope many of them reveal a rare beauty. The “sea mosses,” or “seaweeds,” gradually lose much of their natural beauty of coloration on prolonged exposure to the light, but the prevailing elegance and symmetry of form and structure persist.

Following the plants of the seaweed type are several representatives of the smaller fungi. The specimens exhibited are chiefly from among those which grow upon decaying organic refuse. One interesting parasite exhibited is a fungus parasitic upon another fungus, which, in turn, is a parasite on the leaves of the common lilac. Another fungus shown lives chiefly within the cells of the underground parts of one of the orchids, yet it can scarcely be called a parasite, inasmuch as its presence in the tissues of the orchid is beneficial to the orchid as well as to itself. Of the fungi which live upon decaying refuse matter, *Ascobolus* is one of the more interesting among those selected for exhibition. In this, the spores, or propagating cells, are borne in groups of eight within transparent ellipsoidal sacs, and at maturity these

sacs, each enclosing eight spores, are ejected with considerable force. Under two microscopes are shown sections of lichens, illustrating their mode of reproduction and the fact that a lichen consists essentially of two organisms, a fungus and an alga, intimately associated and constituting what for many purposes may be looked upon as a single organism.

Then follow specimens of the liverworts or scale-mosses, plants in which the differentiation of the vegetative body into stem and leaves becomes first clearly evident. One of these, a *Frullania*, has a part of each leaf peculiarly modified so as to form a reservoir for water. By aid of this device, the frullanias and their allies are able to thrive in drier situations than are in favor with most of the order to which they belong. Preparations are exhibited showing also the vegetative structure and methods of reproduction of the true mosses. Especially interesting is the "peristome" of one of the mosses, which is a fringe of peculiar appendages surrounding the mouth of the little urn in which the minute dust-like spores are borne. These appendages move about as a result of changing conditions of moisture and these mechanical movements assist in scattering the spores. A somewhat analogous device is found in connection with the spores of the equisetums or horse-tails, though the appendages in this case are attached to the spores. Following the slide illustrating this feature of the horse-tails is one showing the spores and spore-cases of the common polypody. The spore-case here is provided with a sort of spring, by the action of which the spores are violently ejected, catapult-fashion. The remaining preparations show the structure of the leaf-stalk and root of common types of ferns.

c. Local Flora. In this collection it is designed to illustrate every plant-species growing naturally or without cultivation within one hundred miles of New York City. For the most part specimens of the plants themselves are used, but in cases where the structure of the plants renders this method undesirable, or impossible, a photograph or a drawing is substituted for the plant-specimen. This collection



FLOOR PLAN, MUSEUM OF FOSSIL BOTANY

Floor and wall cases 1. Plants of Eozoic Time, Laurentian Period, and Paleozoic Time, Cambrian, Silurian, Devonian and Carboniferous Periods.

Floor and wall cases 2-4. Plants of Paleozoic Time, Carboniferous Period.

Floor case 5. Plants of Mesozoic Time, Triassic and Jurassic Periods.

Wall case 5. Specimens showing methods of fossilization.

Floor case 6. Plants of Mesozoic Time, Cretaceous Period (Raritan).

Floor case 7. Plants of Mesozoic Time, Cretaceous Period (Raritan and Cliffwood).

Floor case 8. Plants of Mesozoic Time, Cretaceous Period (Dakota).

Floor case 9. Plants of Mesozoic Time, Cretaceous Period (Laramie).

Floor case 10. Plants of Neozoic Time, Tertiary Period (Eocene).

Floor case 11. Plants of Neozoic Time, Tertiary Period (Miocene).

Floor case 12. Plants of Neozoic Time, Tertiary (Miocene and Pliocene) and Quaternary Periods.

is displayed in swinging frames which are placed so as to correspond in a general way to the sequence of the cases of the synoptic collection already described; thus, the first stand is near the first museum case as one enters the west hall from the top of the staircase. All of the plant groups are here represented by those members that occur locally, and the characteristics of the several groups as mentioned under the Synoptic Collection also apply here.

3. THE MUSEUM OF FOSSIL BOTANY

This collection, installed in the basement, is designed to show the successive stages of evolution through which the ancestors of our living flora have passed since the time of the first appearance of plant life on the earth, as far as the remains of extinct plants have been preserved. The general arrangement adopted is therefore based upon the sequence of the geological time divisions: Eozoic, Paleozoic, Mesozoic and Neozoic, and their subdivisions into periods; Laurentian, Cambrian, Lower Silurian, Upper Silurian, Devonian, Carboniferous, Triassic, Jurassic, Cretaceous, Tertiary, Quaternary and Modern. This arrangement is therefore geological, but incidentally it is also biological, and follows the same system as that on which the synoptic collection of the museum of systematic botany is arranged, inasmuch as the plants of the earlier periods are low in the scale of life, consisting of thallophytes and pteridophytes and plants of uncertain botanical determination, while those which appear in the successively later periods are of successively higher and more complex types, represented by cycads, conifers and both monocotyledonous and dicotyledonous plants closely related to our living flora.

The series of exhibits begins in the first cases to the left as one enters the east hall of the basement. The sequence of the specimens in the wall cases corresponds to that of the floor cases.

In floor- and wall-cases Nos. 1 to 4 may be seen representatives of Eozoic and Paleozoic Time: Laurentian, Cambrian,

Lower Silurian, Upper Silurian, Devonian and Carboniferous Periods. In floor- and wall-case No. 1 are specimens of graphite of eozoic age and of anthracite and bituminous coal of carboniferous age, showing the transformation of vegetable matter into the ultimate condition of pure carbon in the form of graphite or "black lead" in the oldest rocks. Other specimens in this case, classed as algae, are of uncertain botanical relationship, as the structure of the primitive plants was not well adapted for preservation as fossils. For example, some organisms appear as mere filamentous strips of graphite in white limestone, without any trace of the original structure remaining, while others may be seen as casts and impressions which closely simulate in general appearance different parts of the seaweeds now existing. In this series of problematic fossils are also included a number of forms at one time definitely classed as plants but now by some assumed to be of animal or inorganic origin; namely, *Scolithus*, which may be caused by worm burrows; *Phytopsis*, which may be a coral; *Plumalina*, which may be a hydroid; *Dendrophycus*, which may be current-markings; and *Dictyolites*, which are most likely sun-cracks. All of these, however, have at one time or another been definitely regarded as the remains of marine plants and were originally so described and classified.

In these cases and in wall-case No. 2 are also the remains of the earliest fern-plants and their allies (Pteridophyta) of Devonian and Carboniferous age, represented by *Lepidodendron*, *Sigillaria* and *Calamites*, and the early seed-bearing plants, the cone-bearers (Gymnosperms), represented by *Cordaites*, with the fossils under *Trigonocarpon*, *Rhabdocarpon* and other genera.

Floor-cases Nos. 2 and 3 and wall-case No. 3 contain specimens of Carboniferous age, for the most part ferns or fern-like plants, which were originally described as ferns, but which are now placed in a different group, the Cycadofilicales, that is, plants that had characteristics of both the ferns and the sago-palms, but more closely related to the latter than to the ferns.

Floor- and wall-cases No. 4 are devoted to specimens of Carboniferous plants in the genera *Lepidodendron*, *Sigillaria* and *Stigmara*, in order to show the variation in the arrangement and shape of the leaf scars and the difference between specimens with the bark preserved and those which have been decorticated.

Floor-case No. 5 contains types of early Mesozoic time: Triassic and Jurassic Periods.—The plant remains in this case are mostly sago-palms or cycads, with a few cone-bearers and fern-plants, besides specimens of the so-called "*Glossopteris* flora," a flora of uncertain botanical relationship, which flourished in the transition period between Paleozoic and Mesozoic time, particularly in the southern hemisphere, and may yet be represented by the living South African genus *Stangeria*, a cycad having leaves with pinnately arranged forking veins, similar to ferns.

Floor-case No. 6 embraces plant remains from the rocks of later Mesozoic time: Lower and Middle Cretaceous Period.—These specimens represent the first appearance of the higher seed-bearing plants (Angiosperms), the type which is dominant in the existing flora. The genera are in most instances apparently identical with those now in existence, but the species are extinct. The plants of the Lower Cretaceous consist largely of ferns and cone-bearers, while those of the Middle Cretaceous show a preponderance of angiosperms.

Floor-case No. 7 is arranged to show specimens of the Middle Cretaceous flora found within the limits of the City of New York, on Staten Island, or in the immediate vicinity, in New Jersey and on Long Island.

Floor-case No. 8 contains specimens from the Middle Cretaceous of the western States. Those from the Dakota Group are exceptionally fine, many of them being perfectly preserved and showing both cast and impression of the same leaf as counterparts.

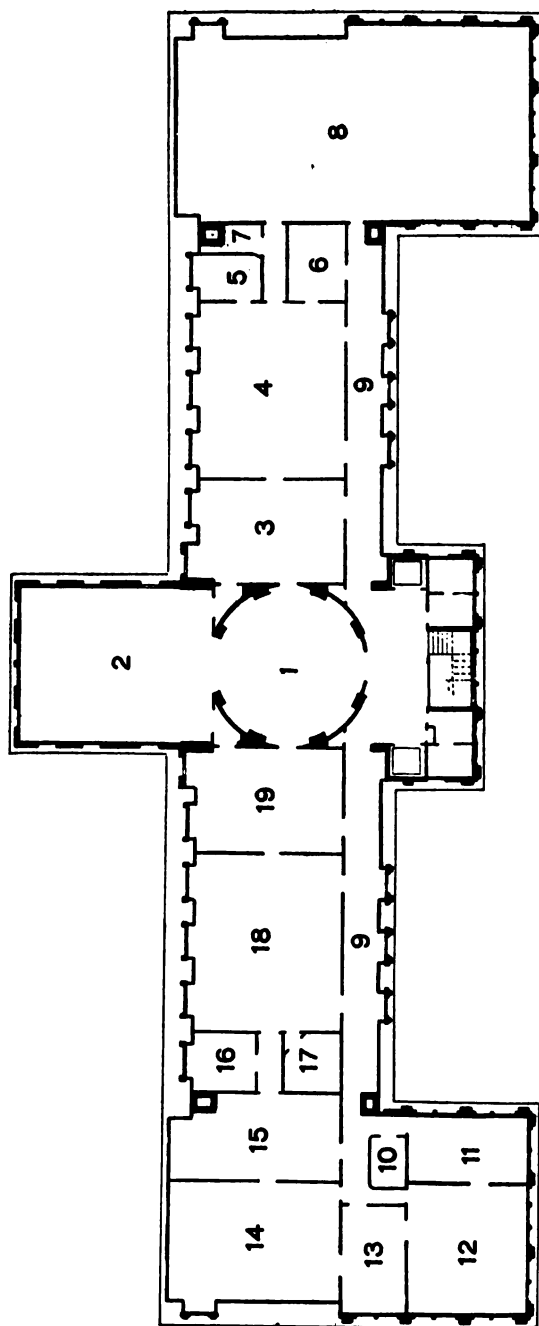
Floor-case No. 9 is devoted to plants of the Upper Cretaceous (Laramie Group), and completes the vegetation of Mesozoic time.

Floor-cases Nos. 10 to 12 and wall-case No. 5 contain plant remains of Neozoic time. Those of the early Tertiary Period (Eocene) are displayed in floor-case No. 10. Those of the later Tertiary (Miocene) and Quaternary Periods in floor-cases Nos. 11 and 12. The specimens in the latter case complete the sequence of plant life on the earth and bring it up to modern times. A number of specimens at one end of the case show the methods of preservation by petrification, incrustation and carbonization, and on the upper shelf is a series of specimens from Quaternary and more recent swamp deposits which show how the conversion of living plants into fossils, a process now going on, has its beginning.

The specimens in wall-case No. 5 further illustrate the characteristics of the plants of the late geological periods and the methods by which the various plant structures have been preserved. A number of specimens of silicified woods show the method of preservation by what is known as petrification, or conversion into stone, in which the woody structure is replaced by mineral matter. Other specimens show preservation by incrustation, in which mosses and the stems of reeds are coated or incrustated by mineral matter deposited from springs; while on the upper shelf and on the top of the case are logs and stumps from old swamps and interglacial deposits, in which the wood has been partially carbonized, or converted into lignite, by the slow process of natural distillation. This process represents the beginning of the conversion of vegetable tissue into coal.

LECTURES

Other features of the museum building include the large public lecture hall, with a seating capacity of over seven hundred, which occupies the western end of the basement. It is equipped with an electric projection-lantern, and public popular lectures covering a wide field of botanical and horticultural subjects are delivered here on Saturday afternoons in autumn and spring; these are fully illustrated by means



PLAN OF UPPER FLOOR OF MUSEUM BUILDING

- | | | |
|---------------------------|-----------------------------|-------------------------------|
| 1. Library Reading Room. | 7. Storeroom. | 14. Physiological Laboratory. |
| 2. Library Stack Room. | 8. Main Herbarium. | 15. Study. |
| 3. Director's Laboratory. | 9. Hall. | 16. Study. |
| 4. Herbarium of Fungi. | 10. Photographic Dark Room. | 17. Physiological Dark Room. |
| 5. Curator's Room. | 11. Balance Room. | 18. Morphological Laboratory. |
| 6. Moss Herbarium. | 12. Chemical Laboratory. | 19. Herbarium of Algae. |
| | 13. Study. | |

of a very extensive collection of lantern slides owned by the Garden which is constantly being increased; a noteworthy part of this collection is the series of delicately and accurately colored slides of flowers, fruits, trees and shrubs, by Mrs. Adelaide S. Van Brunt, from photographs made during many years by her late husband, Cornelius Van Brunt.

A series of lectures to the pupils and teachers of public schools, designed to illustrate and supplement their work in nature study, is given in the large lecture hall on afternoons in autumn and spring, and these lectures are attended by many thousand children.

The Horticultural Society of New York holds several of its monthly meetings at the Garden, using the large lecture hall, and also uses the basement museum hall adjacent for the purpose of exhibitions.

The Torrey Botanical Club holds monthly meetings from October to May, on the afternoon of the last Wednesday of each month, in the museum building, and many of its field meetings on Saturday afternoons throughout the season are held at the Garden.

THE LIBRARY

The library of the Garden is located in the center of the upper floor of the museum building, and is available for consultation, by permission. It has been formed by the Board of Managers in order to provide for the use of students, all the literature of botany, horticulture and related sciences, and is rapidly becoming one of the most complete collections in the world of books and pamphlets dealing with these subjects.

THE HERBARIUM

The herbarium consists of dried specimens of plants systematically arranged in cases; it occupies the greater portion of several rooms on the upper floor of the museum building, and is available for consultation by permission. It contains prepared specimens of all kinds of plants from all quarters of the globe, and is the most extensive and complete collection of its kind in America.

THE LABORATORIES

Laboratories and working rooms for research are provided on the upper floor of the museum building, and properly qualified students of botany are permitted to make use of this equipment, under the direction of some member of the staff of the Garden. The equipment is designed to meet the needs of a very broad field of investigation including plant chemistry, pathology, physiology and morphology. A valuable series of old microscopes, illustrating the history and development of that instrument, has been presented by Mr. Charles F. Cox.

3. The Pinetum

[COLLECTION OF CONE-BEARING TREES]

The collection of cone-bearing trees, technically known as the Pinetum, because the pines are the most abundant of these trees, is planted over a space of about 30 acres in the southwestern part of the grounds, extending from the approach to the elevated railway station southeast to the herbaceous garden, and northeast to the museum building and the borders of the hemlock forest. The species of trees are grouped in genera, as shown by the accompanying plan. The planting out of these trees was commenced in 1901, and, as rapidly as the finished grades of this portion of the grounds have been established and the driveways and paths completed, additional planting has been done; the collection will continually become more complete year by year as additional species are secured; many of these have to be raised from seed, and the process of establishing a collection of conifers thus requires much time.

Commencing at the approach to the elevated railway station we find the Douglas spruce (*Pseudotsuga mucronata*) planted in the space between the traffic road and the park driveway to the left of the path leading to the Conservatories; this tree is a native of western North America from the Rocky Mountains to the Pacific Coast and is sometimes known as

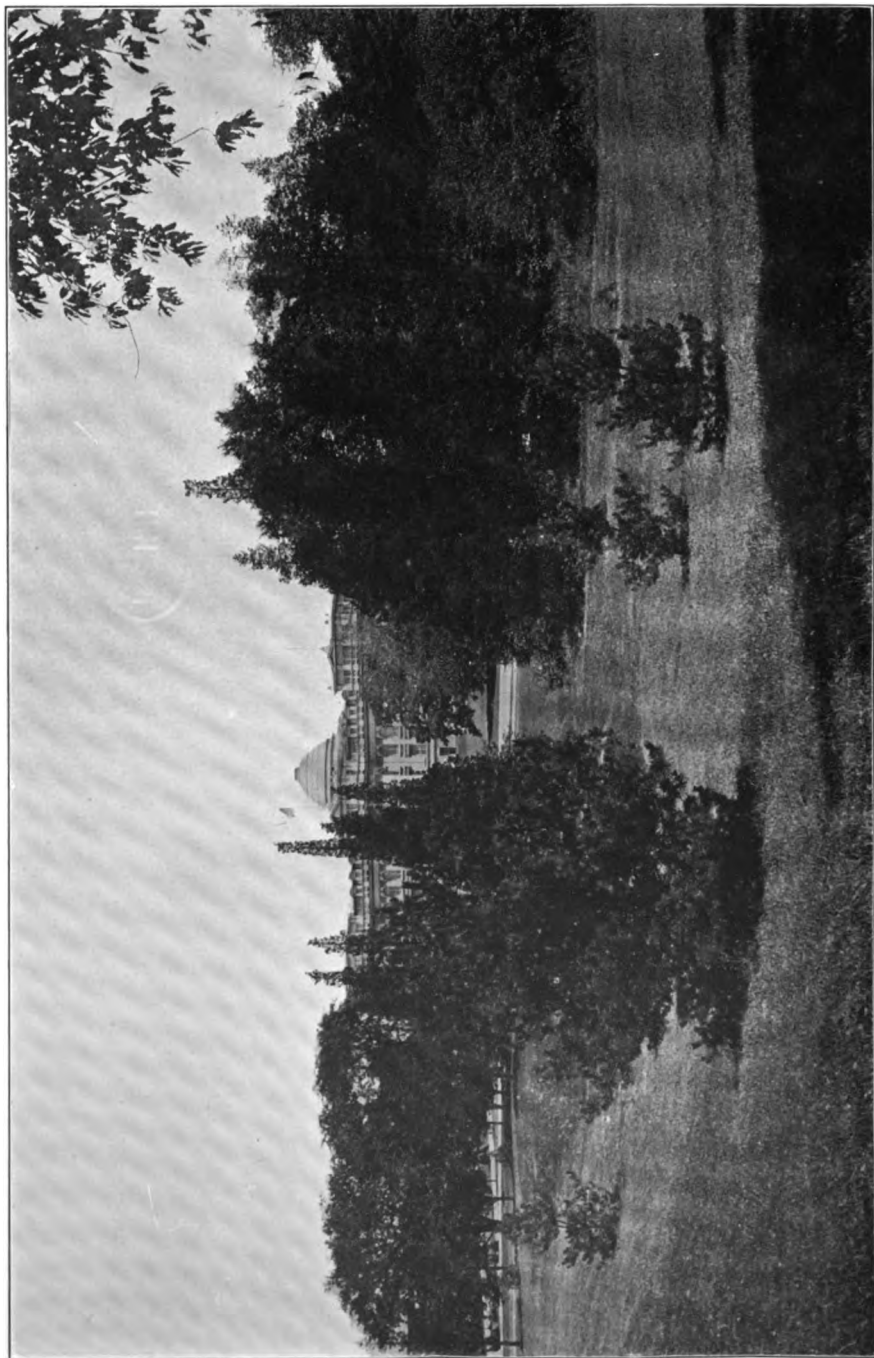
red fir. In the far northwest it sometimes becomes 180 to 210 feet high, its trunk occasionally as much as $3\frac{1}{2}$ feet in diameter, but in the Rocky Mountains it is seldom one-half this size, and trees taken from the far northwest do not thrive well on the Atlantic coast, owing to the much greater rainfall which they naturally receive there; the cones of the Douglas spruce are from 2 to 4 inches long, pendant on the branches, their scales rounded and shorter than the bracts which project beyond them.

The hemlock spruces (*Tsuga*) are planted between the approach to the elevated railway station and the power house, and are represented by the Canadian hemlock spruce (*Tsuga canadensis*), the same species which forms the interesting forest on the hills bordering the Bronx River, and indicated on the general plan of the Garden as the hemlock grove. This tree occasionally becomes about 90 feet high, with a trunk up to 12 feet in diameter, and is distributed throughout northeastern North America, extending southward along the mountains to Alabama, northward to Nova Scotia and westward to Minnesota. Its bark is the most important tanning substance in the United States and a great many trees are annually felled to obtain it; its wood furnishes a cheap lumber of little strength and durability. The Carolina hemlock (*Tsuga caroliniana*), from the mountains of southern Virginia to Georgia, may also be seen here, as well as the Japanese hemlock spruce, to which the name *Tsuga* was first applied.

In the area to the westward of the conservatories, and bounded by the surrounding paths, are the firs (*Abies*). These can at once be distinguished from the spruces (*Picea*) by the erect, instead of pendulous, cones, and by the smooth branchlets. The wood of the firs is usually soft and not durable, so it makes poor lumber. Specimens of the balsam fir will be found here; this is widely distributed over northern North America, and from it is obtained Canada balsam or balm of fir, used in the arts and in medicine. The Japanese silver fir is an attractive plant, with its dark green stiff

foliage. Veitch's silver fir, from Japan, and said also to occur on the neighboring coast of Manchuria, is one of the best for ornamental purposes. It was discovered in 1860 on the famous Japanese mountain, Fuji-yama, by Mr. Veitch, for whom it is named. The red fir, from Washington and Oregon, with its blue leaves, borne almost erect and apparently on but one side of the branchlets, makes a conspicuous object. In its native country it sometimes attains a height of 250 feet. Its wood is sometimes used in the interior finishing of buildings. Among other firs here are: the white fir, from western North America, sometimes growing to a height of 200 to 250 feet; the Siberian fir, from northern Europe and Asia, yielding a soft lumber in general use and a bark used in tanning leather; the common silver fir, from Europe; Nordmann's silver fir, from the Caucasus; the Sicilian silver fir, from Asia Minor; and the Nikko silver fir, from Japan.

The spruces (*Picea*) are located in the area to the northeast of the firs. Some of the spruces are most valuable timber trees. The oriental spruce, from Asia Minor, is present in several specimens. One of the hardiest spruces for our climate, and a general favorite, is the Colorado, or blue, spruce, the young foliage of which has a decided blue color, whence its name. It usually grows about 100 feet tall in its native country. The Norway spruce, with a number of horticultural forms, makes a group on the highest portion of the area devoted to the spruces and is a commonly cultivated tree. It furnishes a useful timber, which is known as "white deal" in England, and is largely used in the manufacture of musical instruments. The resinous exudation of this tree is known as Burgundy pitch, which, in combination with other ingredients, is used in Germany to line beer casks. Other spruces of interest here are the Yesso spruce, the wood of which is much used in Japan; the white, or Engelmann's, spruce, from western North America, the wood of which is largely manufactured into lumber and the bark sometimes used in tanning; the Servian spruce, one of the largest and most valuable timber trees of Europe; and the tiger's-tail spruce, from Japan,



VIEW IN THE PINETUM. THE MUSEUM BUILDING IN THE DISTANCE

introduced about forty years ago, and one of the hardest Asiatic species in cultivation.

The space allotted to the pines (*Pinus*) embraces the region to the eastward of the spruces and public conservatories, extending across the road to the herbaceous grounds. Most of the pines are of great economic importance, furnishing large quantities of lumber, turpentine and resin. Most of the white pines will be found on the westerly ridge of the herbaceous grounds and across the road from this to the eastward of the conservatories. Among these is our common white pine and several of its horticultural varieties. It is perhaps the most valuable of the timber trees of northeastern North America, large quantities of lumber being derived from it; near this is the Himalayan pine, resembling it, but with longer leaves. This sometimes attains a height of 150 feet in its native country, where its lumber is much used for building and other purposes. In this region will also be found the Cembra or Swiss stone pine, of southern Europe and northern Asia; and the Macedonian pine, of southeastern Europe.

In the area to the eastward of the conservatories will be found, among others, the Corsican pine, with a hard, strong wood which is much used; the variegated Scotch pine, with the young leaves variegated; and a number of plants of both the white pine and Himalayan pine.

In the region to the north of the white pine tract, and on the westerly side of the herbaceous grounds ridge, will be found the Tyrolese mountain pine, from the Tyrolese and Venetian Alps, forming a group of some dozen plants; near this is the Japanese red pine, and two horticultural forms of it, from Japan. Following these to the north are a number of plants of the Jack pine, or Banks' pine, native of northern North America. Its wood is sometimes used for fuel, and was valued by the Indians for the frames of their canoes.

In the area to the eastward of the spruces are a number of other pines. The Corean pine, one of the white pines and a native of eastern Asia, is located next to the spruces. Near

this is the Table-mountain pine. On the high ground to the eastward of the above is the Scotch pine, the principal timber pine of Europe and Asiatic Russia. On the easterly slope of this higher land and on the lower ground nearby may be found, among others, the red or Canadian pine, from north-eastern North America, the wood of which is largely used for building purposes and for masts, piles and spars; the small-flowered pine, another of the white pines and from Japan, where it is frequently used by the Japanese in producing their miniature trees; the Japanese black pine, also from Japan and useful for its wood; the Austrian pine, found native in Austria, Servia and Roumania; and the yellow, or bull, pine, from western North America.

In the triangle located midway between the south gate and the conservatories, are the American cypresses (*Taxodium*), in two species: the cypress, or bald cypress, and the pond cypress. These, like the larches (*Larix*), and a few other coniferous trees, shed their leaves for a portion of the year. They form vast areas, in parts of the southern states, called cypress swamps. Their timber is of economic importance and their bark is rich in tannin. None of the true cypresses (genus *Cupressus*) are hardy with us.

At the northern end of the swale in which the herbaceous grounds are located, is a miscellaneous collection of coniferous trees, and also the members of the yew family (*Taxaceae*). Among the miscellaneous coniferous trees here are: the Japanese cedar, a tree which is barely hardy in this latitude; the umbrella pine, from Japan, a very decorative plant; the deodar, or Indian cedar, from the Himalayan region; and the Mt. Atlas cedar, from northern Africa. The larches (*Larix*) may also be found in this neighborhood, on the ridge. These are deciduous trees, the wood of which is of great economic importance. Specimens of the European larch are here, and also of the Japanese larch. The genus *Pseudolarix*, distinguished from the larches in having the scales of the cones deciduous, is represented by its single

species, the golden, or Chinese, larch; this, like the true larches, is a deciduous tree.

The yew family (*Taxaceae*) is represented by two genera. Of the true yews (*Taxus*), there are: the American yew, or ground hemlock; the English yew and several of its horticultural forms, the wood of which was highly prized in ancient times for the manufacture of bows; and the Japanese yew. The cluster-flowered yew (*Cephalotaxus*) is represented by Fortune's cluster-flowered yew, from northern China, and the iraga boku, of the Japanese, from Japan. Other representatives of this group will be found in conservatory houses Nos. 12 and 13.

On the westerly corner of the conservatory terrace and in the immediate vicinity are located the retinisporas, which are so commonly cultivated as decorative plants. There are many horticultural forms here represented, but they are all variations of two Japanese trees: the Sawara cypress (*Chamaecyparis pisifera*); and the Hinoki cypress (*Chamaecyparis obtusa*). The latter species is frequently used by the Japanese in their dwarfing process. The names borne by the various horticultural forms have been suggested by some peculiarity in coloring or in manner of growth. Other species of the genus *Chamaecyparis* will be found in the low ground along the south walk, not far from the south gate.

On the easterly corner of the conservatory terrace, opposite the retinisporas, is a part of the juniper, or red cedar (*Juniperus*), collection. The remaining and larger portion of this collection will be found on the easterly end of the area lying between the driveway and the traffic-road south of the conservatories. In these two regions will be found many species and varieties of these plants. The common juniper, of north temperate regions, is one of these; also the Irish juniper, a form of this, of compact and strict habit. The red cedar, so common in a wild state in the grounds of the Garden, finds representatives in many horticultural forms. The low cedar, of North America, Europe and Asia, is a pretty dwarf species. The savin juniper, of Europe and

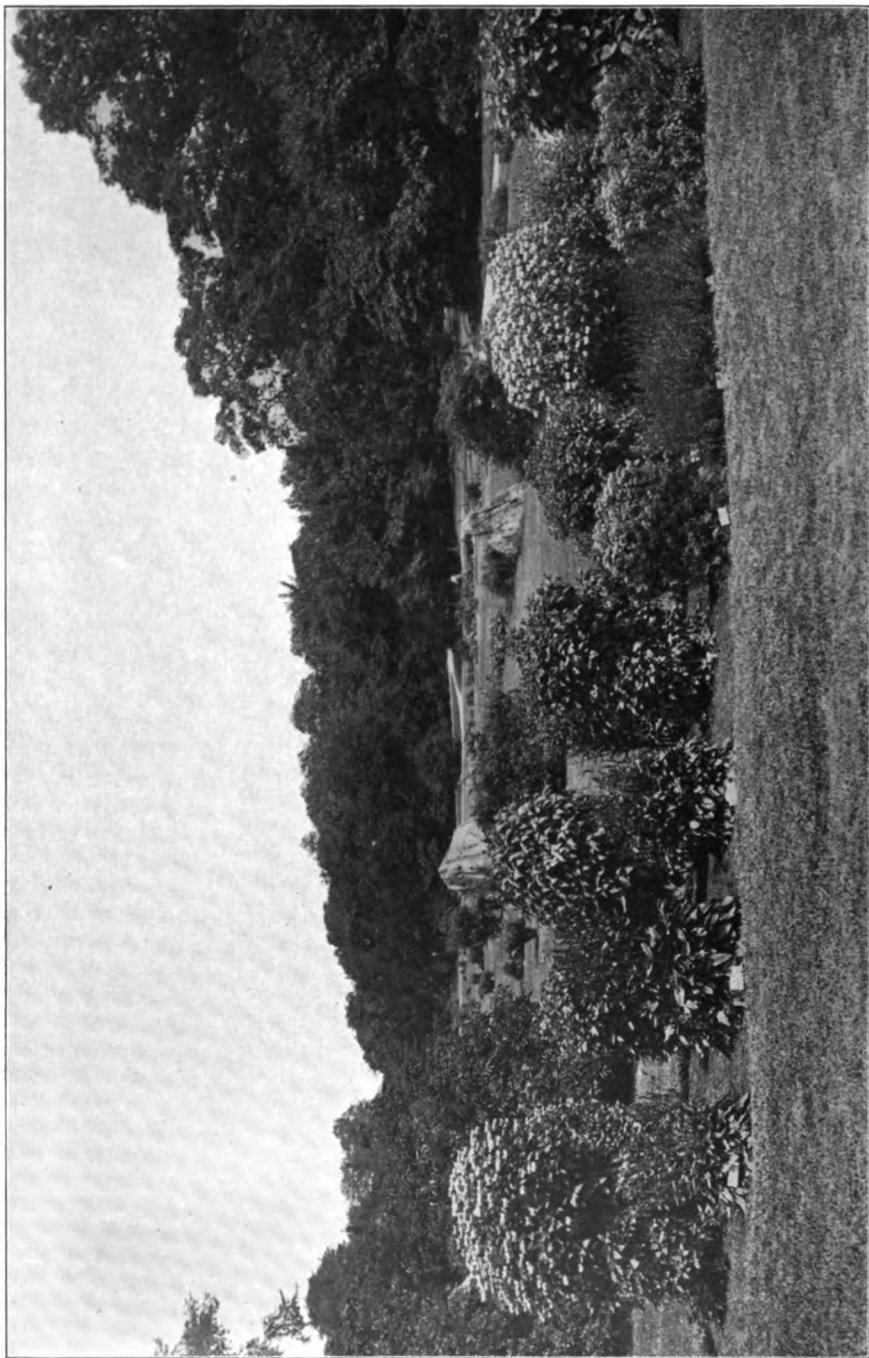
northern Asia, and its American representative, the prostrate juniper, of northern North America, are both neat low-growing sorts. The Chinese juniper, and its striking form, of columnar habit, known as variety *pyramidalis*, are each present in a number of specimens. There are still other varieties of the Chinese juniper represented her.

At the westerly end of this same area is the arbor vitae (*Thuja*). The species of this genus produce a durable wood, which is of especial value where there is contact with the soil. The Japanese arbor-vitae is represented by a single specimen. The common arbor-vitae, or white cedar, from northeastern North America, is fully represented, not only by the typical form, but by many horticultural varieties, some of them very decorative. The wood of this tree is valued for fence posts, railway ties, etc., and from its young branches fluid extracts and tinctures are made which are used in medicine. The Chinese arbor vitae, from China and Japan, has a number of specimens representing it and some of its horticultural forms.

The maiden-hair tree family is represented by a single species, the maiden-hair tree, several specimens of which may be found on the southern portion of the westerly ridge of the herbaceous grounds. This interesting tree, with its fan-shaped leaves, is a remarkable relic of a type of vegetation which was common and widely distributed in tertiary geological time, but is now restricted to eastern temperate Asia in this one species, *Ginkgo biloba*.

4. The Herbaceous Grounds

The collection of hardy herbaceous plants is situated in a valley southeast of the public conservatories, and between the main driveway and the western border of the woods fringing the hemlock grove. This valley is about 500 meters long and averages about 100 meters wide. A small stream runs through the valley from north to south and is here and there broadened out into pools. The collections are arranged



VIEW IN THE HERBACEOUS GROUNDS

in four series: (*a*) The systematic plantation; (*b*) the morphological garden; (*c*) the economic garden; (*d*) the viticetum, or collection of vines, both woody and herbaceous, planted at an arbor just east of the northern part of the valley.

(*a*) SYSTEMATIC PLANTATIONS

This is located in that portion of the valley south of the driveway crossing it, and here the plants are grouped by natural families in botanical relationship. To the east of the brook are the seedless plants, represented by the ferns and their allies, and the families of seed-bearing plants belonging to the large endogenous division, or those with parallel-veined leaves and with one seed-leaf (monocotyledons). To the west of the brook are the families belonging to the exogenous division of plants, or those in which the leaves are usually net-veined and which have two seed-leaves (dicotyledons). This latter group embraces the larger part of the plants in the collection. Along the brook, or in it, may be found many aquatic plants, representing in some cases families which are exclusively water-lovers, while in other cases they are aquatic representatives of families occurring in the immediate vicinity in the beds. In this plantation, the family groups are arranged substantially in a sequence beginning with those of simpler organization and proceeding to the most complex.

The series commences in the southern corner of the valley at the foot-path entrance, where the hardy ferns and their allies may be found, including species from all parts of the north temperate zone. Among these may be mentioned the ostrich fern, the cinnamon fern, Clayton's fern, the royal fern and the American royal fern, the brake or bracken, and a number of species of the shield-ferns and of the spleenworts. A collection of forms of the lady-fern, representing many variations, may be found here also. Some of the aquatic representatives of the ferns and their allies may be found in the pond nearby.

In this pond may also be found the following aquatic endog-

enous families: the cat-tail family, the bur-reed family, the pond-weed family, the arrow-grass family, and the tape-grass family. At the junction of the brook with this pond is the water-plantain family, including, besides the water-plantain, several species of arrow-head (*Sagittaria*). A little beyond, in the brook, may be found the water-poppy family, represented by the water-poppy, a showy plant common in tropical regions.

Following to the north comes the large group of the grasses and grass-like plants, those whose flowers, mostly very small, are subtended by chaffy scales or glumes. This is represented by the grasses and the sedges, several beds being devoted to each of these families. Some of the more familiar grasses are: timothy, Kentucky blue-grass, reed canary-grass, orchard grass, red-top and tall fescue-grass, all used in making hay. Other grasses of interest are: sweet vernal-grass, exhaling a pleasant odor when bruised; the Japanese plume-grass, in several forms, very ornamental; the ribbon-grass, a variegated form of the reed canary-grass, and also ornamental; and species of many other genera.

The sedges are represented mainly by the large genus *Carex*, perhaps the most striking of which is Fraser's sedge, from the southeastern United States, at one time one of the rarest of plants, but rediscovered in recent years in large quantities in the mountains of North Carolina. The tussock sedge, common in our swamps in early spring, the cat-tail sedge, Gray's sedge and the fox sedge, are others belonging to this genus. There are also representatives of bullrushes and other sedges.

Following the sedges is the arum family, having as representative plants, familiar to many, the skunk cabbage, the green arrow-arum, the green dragon, the jack-in-the-pulpit, and the sweet flag. In the brook opposite to this family may be found the somewhat related duckweed family; the duckweeds (*Lemna*) are very common, these tiny plants sometimes occurring in such numbers as to cover the surface of ponds and slowly moving streams. Along the edge of the brook

just beyond is the yellow-eyed grass family, and near it the pipewort family. Coming now to the spiderwort family, we have represented mainly the spiderworts and day-flowers. In a small pool and along its eastern edge is placed the pickerel-weed family. Here may be found a large clump of the pickerel-weed (*Pontederia*) which is so common in swamps and along streams in the vicinity of New York; here may also be found the water-hyacinth, which has become such a pest in some of the rivers of Florida and the West Indies, and the closely related blue water-hyacinth, of more straggling habit, also of tropical origin.

The rush family occurs next in the sequence, represented, among others, by such familiar plants as the common bog-rush, the slender rush, and the common wood-rush. Following this come the members of the bunch-flower family, with several species of bellworts, the turkey-beard, the Japanese toad-lily, the fly poison, the swamp pink and others. Closely related to this is the lily family. One of the beds given over to this family is devoted to the true lilies (*Lilium*) in several forms; another is set aside for the onions and their relatives, of which there are many interesting forms, some of them of decorative value; while another bed is given to a miscellaneous collection of plants belonging to this family, among which may be mentioned the day or plantain lilies, the yellow day lilies and the lemon lilies, the true asphodel or king's sword, the grape-hyacinth and Adam's needle. Other close relatives of the lilies belong to the lily-of-the-valley family; here may be found many familiar plants, among them being the lily-of-the-valley (*Convallaria*), the wild spikenard, the common asparagus, of such wide use as a vegetable in the early part of the summer, and several species of the Solomon's-seal, both from the Old World and the New.

The amaryllis family is shown by a number of species of daffodils and narcissus. In the iris family, which comes next, many species are represented. Most familiar among these are: the common blue flag of our swamps, the yellow flag of Europe, the German iris, the Siberian iris, the Japanese

iris and the blackberry lily. For the canna family reference is made to the plantations at the Garden fountain at the approach to the museum building and to the conservatories, and for orchids to the conservatories.

Crossing the brook now by the path paralleling the driveway, we come to the beginning of the sequence of the large series of plants with net-veined leaves and with two seed-leaves (dicotyledons). This series begins with the lizard's-tail family, represented here in the brook by the lizard's-tail (*Saururus*), a common plant of our brooks and river borders in the eastern United States. To the nettle family one bed is at present given, located near the group of magnolia trees, where may be found, among other kinds: the slender nettle, of North America; the stinging nettle, native in Europe and Asia, but introduced into this country; and the wood nettle, also a North American plant; all of these secrete an oil through the hairs covering the stem and leaves, this oil being irritating to the skin, especially in the stinging nettle. In the immediate neighborhood and to the right is the birthwort family, represented by several species of wild ginger (*Asarum*), among them the common one of this region, the short-lobed wild ginger, the root of which is of medicinal value; another is Shuttleworth's wild ginger, of the southeastern United States. To the buckwheat family there are at present devoted three beds, forming a group to the left of the nettle family. The docks (*Rumex*) are shown in many forms, as are the knotweeds (*Polygonum*); the most showy of these are the Japanese and Sakhalin knotweeds, the latter a plant of considerable economic importance, being used as a fodder plant, and is a native of the Sakhalin Island; to this family also belong rhubarb, or pie-plant, and buckwheat. Next to this and near the brook is the goosefoot family, with several species, one of which, the lamb's-quarters (*Chenopodium*), is native of Europe and Asia, but found as a common weed in waste places and along roadsides in this country; its young shoots are sometimes used as a vegetable. Closely related to this, and just south of it, is the amaranth family,

represented by several species of the pigweed, many of them among the commonest weeds of our roadsides and waste places. Forming a series to the right of this are: the four-o'clock, pokeweed, carpetweed and purslane families. In the four-o'clock family may be found the common four-o'clock of our gardens, a native of tropical America, its flowers opening only on cloudy days or late in the afternoon on clear days, whence its name; and the umbrellaworts, from North America. The pokeweed family is represented by the common poke or garget (*Phytolacca*), native of the eastern part of North America, a plant of medicinal value and poisonous, but its young shoots when first appearing above the ground are sometimes used as "greens." In the carpetweed family are the carpetweed, from which the family derives its name, a native of the United States and Mexico, but a common weed in this vicinity; and representatives of the south African fig-marigolds (*Mesembryanthemum*), many of them very showy; they are not hardy in this latitude and must be planted out every spring. In the purslane family, among others, may be found the sunplant or common portulaca of the gardens, a native of South America; the small-flowered talinum, from the central United States; and the common purslane or pusly, a pernicious weed in many sections of the country, and often used for "greens" or as a salad.

The pink family follows, with three beds. Many kinds of pinks, catchflies, chickweeds and gypsophils may be found here. In the first pool, formed by the widening of the brook, is the water-lily family; the large yellow pond lily or spatterdock, a native of eastern North America, may be found here, as may also its relative, the red-disked pond lily, from north-eastern North America; the small white water-lily, a native of northwestern North America and Asia, the European water-lily, from Europe and Siberia, and the sweet-scented water-lily, and its variety, the pink, or Cape Cod, water-lily, also find a place here; the water-shield or water-target is also a member of this family and a native of North America. The tanks in the court of the public conservatories contain a great

many additional kinds. The hornwort family likewise occupies a position in this pool. The aquatic members of the crowfoot family are grown here, the terrestrial forms being placed in four beds to the westward; one of these beds is given up entirely to the peonies (*Paeonia*), of which there are a number of interesting and handsome forms, and in the other beds may be found larkspurs, columbines, buttercups, meadow-rues, anemones, liver-leaf, and many other relatives; aconite, or monk's-hood, of great medicinal value, also belongs to this family.

The barberry family, which is represented by a single bed on the ridge to the right of the crowfoot family, contains, among others, the blue cohosh and the may-apple or mandrake (*Podophyllum*), natives of North America; the twin-leaf, a native of the northeastern United States; and the Japanese plants, the two-leaved aceranthus and the red epimedium. In the poppy family may be found the oriental poppy, a native of Asia Minor and Persia, and here may be seen also the cordate bocconia, from Japan, and the Mexican poppy, a native of Mexico and found as a weed in many tropical and warm temperate regions. In the fumitory family are the bleeding-hearts (*Bicuculla*), represented by the wild bleeding-heart from the eastern United States. The mustard family, which comes next in the sequence, occupies two beds. To this family belong the candy-tufts, represented here by the evergreen candy-tuft, from southern Europe and Asia Minor, and the alpine rock-cress, from Europe and North America, one of the showiest flowers in early spring, its mantle of pure white flowers making it a conspicuous object; there are many other species represented in this group. The caper family has as representatives the showy pedicellaria, a native of the Old World, and the clammy weed (*Polanisia*), from northern North America. The white and yellow cut-leaved mignonettes (*Reseda*) represent the mignonette family. Across the path to the right, on the ridge and partly surrounding a rocky knoll, is the bed devoted to the orpine or stonecrop family, where there may be found many of the

stonecrops (*Sedum*), among the more showy and attractive being: the great purple stonecrop, the great stonecrop, the white stonecrop, and the mossy stonecrop, all natives of Europe and northern Asia; the wild stonecrop and Nevius' stonecrop, both from our own country; the Siberian stonecrop and the poplar-leaved stonecrop, both from Siberia; and a Japanese species, Siebold's stonecrop; also belonging to this family are the houseleeks (*Sempervivum*), of which there are many representatives, all from the Old World, however, as these plants are not indigenous to the New World. Many other species of this family, not hardy in this latitude, may be found in the conservatories. Across the path from the orpine family may be found the three beds devoted to the saxifrage family. The heart-leaved saxifrage, with its large, thick leaves, from Siberia, is one of the showiest plants here, sending up its large masses of pink flowers early in the spring, so early sometimes that they are nipped by the frost. Among other plants here may be mentioned: the alum-root, from the eastern United States; the two-leaved bishop's-cap, from the northern United States; the Japanese plant, *Rodgersia*; and the shield-leaf saxifrage, from the western United States. Menzies' saxifrage, from western North America, is interesting from the fact that in late summer and fall it produces small plants at the base of the leaf-blades.

To the herbaceous members of the rose family are allotted five beds, located to the left of the saxifrage family. Many species of cinquefoils and agrimonies may be found here; of the strawberry (*Fragaria*) there are several species represented; the lady's-mantle, from north temperate regions, the various species of avens, the goat's-beard, the burnets and many others, are of decorative value or of interest for other reasons. The roses, blackberries and raspberries, also members of this family, are shrubs, and may be found at the fruticetum. The mimosa family has relatively but few representatives in temperate regions, most of its numerous members being confined to warm temperate regions and to the tropics; many of these may be found in the conservatories.

To the senna family belong the sennas or cassias, a showy representative being the American senna, a native of North America; this family being also largely of warm temperate and tropical distribution, many other species may be found in the conservatories. To the right of the mimosa family may be found the bed devoted to the pea family; to this some of our most valued economic plants belong, such as the pea, the bean and the clover; to the pea family belong also the baptisias, the bush-clovers, the vetches, the tick-trefoils and many other familiar plants.

Next in the order of sequence is the geranium family, to which belong the geraniums or crane's-bills; the plants so often cultivated in the house under the name of geraniums, but which are not hardy out of doors in our climate, are really not what they are called, but are truly pelargoniums, a closely-related group of plants belonging to the same family; besides our common wild geranium or crane's-bill may be found, among other plants here. A little farther on, near the brook, may be found the bed devoted to the wood-sorrel family, often called sour-grass by children; several species are shown here. Just to the left of the geranium family is the flax family, to which belongs the flax plant (*Linum*), from the fiber contained in the stem of which linen is made. Beyond this is the bed for the rue family; to this belong the common rue, of southern Europe, and the fraxinella; this family also includes the oranges and lemons, specimens of which may be found in the conservatories, and a very great number of tropical trees and shrubs. To the right of this is a small bed devoted to the milkwort family. The spurge family is in a bed just to the left of the flax family; the flowering spurge, from the eastern United States, and the cypress spurge, from Europe, but sometimes found wild in this country as an escaped plant, are both here. Along the edge of the brook, and opposite the spurge family, may be seen the water-starwort family, to which belong a number of small aquatic plants. About opposite this, and at the base of the rocky ridge to the right, are two representatives of the box family, in the trailing pachy-

sandra, from North America, and its Japanese relative, the terminal pachysandra; the true box (*Buxus*) is a shrub or small tree, native of Europe, and several specimens of it may be found at the fruticetum. A little to the right of the wood-sorrel family is the jewel-weed family, to which belong the common balsam of the gardens, and the plant so common along our brooks and other wet places, and known as jewel-weed, or touch-me-not. A little beyond this are three beds of the mallow family; the hollyhocks belong here, as do the mallows; the crimson-eye mallow and the swamp-rose mallow, both from North America, are showy representatives of this family; and the marsh mallow, a native of Europe and the Orient, is also shown; its root is used in the manufacture of a mucilage and for medicinal purposes.

To the right of the mallows is the bed given over to the St. John's-wort family. The rock-rose family comes next, a little further on; here belong the rock-roses of Europe and our own frost-weeds. To the right of this is the violet family; a large collection of our native species, together with some from foreign lands, is here brought together and many of these may be recognized as old friends. Up on the ridge to the right, across the walk, may be found the cactus family; relatively few of these are hardy in this climate, so the larger part of the cactus collection must be sought in the conservatories. Here may be found, however, several representatives of the prickly pears (*Opuntia*), including the eastern prickly pear, common in this part of the country, which is frequently found on the rocky ridges in the vicinity of New York and occurs wild on some ledges within the Garden reservation. Down near the brook, and not far from the mallow family, is the loosestrife family, represented by the purple loosestrife, a native of Europe, but introduced in many places in this country; among others belonging to this family is the swamp loosestrife, or willow-herb (*Decodon*), a plant of which may be found along the brook opposite to the loosestrife bed. Near this, on the edge of the brook, is located the meadow beauty, one of the prettiest little flowers of our meadows. It

belongs to the meadow-beauty family, few species of which occur in cool regions; it is largely represented in warm temperate and tropical regions, and many other species may be found in the conservatories. But a short distance from the violet family is the evening-primrose family; here may be found a number of the evening primroses (*Oenothera*), with their showy yellow flowers, noteworthy as the plants mainly experimented with by Professors DeVries and MacDougal in their studies on the origin of species. Along the brook, not far from the loosestrife family, is the water-milfoil family, represented by the Chilean water-milfoil or parrot's-feather, forming a beautiful mass of feathery green on the surface of the water. Returning now to the ridge, a little beyond the violet family, we find the bed allotted to the ginseng family; here are the Indian-root, from eastern North America, and the heart-leaved aralia from Japan. To this family also belongs the ginseng plant, the root of which is so much prized by the Chinese as a medicine. Down the slope from this group may be found two beds given over to the carrot family, which includes many economic plants, such as the carrot, parsnip, celery and caraway; lovage, a common European plant, is shown, and the rattlesnake-master, from the eastern United States; the wild carrot and the golden meadow parsnip also belong here.

To the primrose family, located at the base of the ridge a little beyond the carrot family, belong the primroses (*Primula*), many of which are natives of Europe; here we find the common European primrose, the cowslip and others; the moneywort, a native of Europe, but introduced into many places in this country, sends its long creeping stem all over the bed—this is sometimes known as creeping Charlie; the fringed loosestrife, from North America, is also here, as is the clethra-like loosestrife, from Japan, with its racemes of white flowers. Between the two beds devoted to the carrot family, and a little beyond, is the plumbago family, to which belongs the common thrift of Europe; there are several other thrifts here also, as well as the statice or sea-lavenders, in several

species. The bed allotted to the gentian family may be found a little beyond the plumbago family; various gentians are represented, among them the blind gentian, a native of the United States, and the Thibet gentian, from the Himalayas and China. In the brook, just beyond the little stone bridge, may be found the buckbean family; here are shown the water-snowflake, common in tropical regions, and the water-lily floating heart, native in Europe and northern Asia.

Just beyond the left hand bed devoted to the carrot family is the dogbane family; the willow-leaved amsonia, from the central and southeastern United States, and the broad-leaved amsonia, from the central and eastern United States, are conspicuous objects here. Beyond this are two beds of the milkweed family and among its representatives are the common milkweed of our roadsides, the hairy milkweed and the swamp milkweed; the swallowworts also belong here and are illustrated by several species. In the morning-glory family, located to the right of the above, are the small bindweed, of northern Europe and Asia, sometimes a troublesome weed in this country, and the bush morning-glory from the western United States. Following the milkweeds is the phlox family; interesting plants here are the Jacob's-ladder (*Polemonium*), of Europe, with its masses of blue flowers; the hairy phlox, of North America; Britton's phlox, a relative of the common ground phlox, from the southeastern United States; the ground phlox and its white-flowered form, both natives of the eastern United States; and forms of the garden phlox, also from the southeastern United States. In the shade, the natural habitat of many of these plants, is the water-leaf family, at the base of a large rock on the ridge; there are the purple, the broad-leaved and the Virginia water-leaf (*Hydrophyllum*).

Further along and at the base of the ridge is the borage family; the tuberous comfrey, the rough comfrey and the common comfrey, all natives of Europe, are represented. In the vervain family, in a small bed to the left, may be found:

the wedge-leaved fog-fruit (*Lippia*), from the western United States and Mexico and the vervains. We now come in the sequence to the mint family, to which are devoted six beds; among the true mints may be found here the creeping whorled mint, the curled mint and the spearmint, all from the Old World. Many familiar plants may be seen in these beds, and among them are: the false dragon-head, of the United States; motherwort, common in Europe and widely distributed as a weed in this country along roadsides and in waste places; the horse-balm, of North America, common in the east in woods; Oswego tea, and other bergamots, natives of North America; the betony and hyssop, of Europe; the hedge-nettles, from both the Old World and the New; the common sage of the Mediterranean region, highly prized by the housewife, and other sages; catnip, a native of Europe, but widely distributed as a weed in this country; Gill-over-the-ground, or ground ivy, also a European plant, but extensively spread as a weed in this country; and the dittany, of North America.

The potato family may be found a little to the left and just beyond the phlox family. Here may be seen the common jimson, or Jamestown, weed, the seeds of which are poisonous, a native of tropical regions, but a common weed along our roadsides; the nightshade, a European plant, but commonly distributed as an introduction in many parts of this country, also with poisonous fruit; tobacco plants and solanums; it is to this family that the potato, tomato and egg-plant belong. A little beyond and to the left of the mints are the two beds allotted to the figwort family; of interest here are: the beard-tongues, of which there are several species; the speedwells (*Veronica*), among them the long-leaved speedwell and the gentian speedwell; the fox-gloves (*Digitalis*), from one of which, the purple fox-glove, the valuable medicine digitalin is derived; Lyon's snake-head from the southern states; culver's-root, from the southeastern United States; and several figworts. Just beyond this may be found the unicorn-plant family, represented by the unicorn-plant.

A little beyond is the globularia family, represented by a single species of globularia. To the right is the acanthus family; not many of these plants are hardy in this latitude, but in the conservatories many representatives may be found, as the family is largely confined to tropical and warm temperate areas; in this bed may be seen the hairy ruellia, from the southeastern United States. In this neighborhood may also be seen the lopseed family, represented by the lopseed, a native of eastern North America.

To the right of the acanthus family is the single bed devoted to the plantain family; several species, such as Rugel's plantain and rib-grass, are pernicious weeds in this neighborhood, often disfiguring an otherwise even lawn. Just beyond the mints may be found the two beds of the madder family; to this belongs the dainty little bluets or innocence, which sometimes give a blue sheen to sterile, sandy places, so abundant is it in some localities; it is quite common in eastern North America; several species of bedstraw (*Galium*) may also be found here, while many other plants belonging to this family are grown at the conservatories, among them the coffee tree. A little beyond is the single bed of the honeysuckle family, represented by the feverworts; this family being large composed of woody plants, many other species, including the true honeysuckles, may be found in the fruticetum and in the viticetum. To the left is the valerian family with a single bed; here may be found the valerian, a common European plant.

Just beyond the plantain family is the teasel family. It is to this that the teasel plant belongs, used in olden times for raising the nap on woolen cloth. Several species of cephalaria may be found here. The bell-flower family is a little further on and to the left; the Carpathian and Host's bell-flowers, both natives of Europe, are pretty representatives here; the creeping bell-flower, or Canterbury bells, also a native of Europe, may be found here in several forms; the Japanese bell-flower and its white variety are also here, their large showy flowers making them quite conspicuous. A little

further on and to the left is the lobelia family; the cardinal flower and the blue cardinal flower, both natives of North America, make showy objects; the former is particularly striking in its rich masses of cardinal-red flowers.

To the right of the teasel family is the chicory family. The common lettuce (*Lactuca*), so much used in salads, belongs here; many of the plants are extremely weedy by nature, and this is particularly true of the hawkweeds, a genus richly represented in the Old World, several species of which are shown here; the oyster plant is also a member of this family.

To the left of this may be found the ragweed family. All the species here are of a weedy nature. The ragweed, the giant ragweed and the common clot-blur find representation here. Terminating the sequence comes the very large thistle family, represented by many species from all parts of the world; there are nine beds at present given over to these plants; the sunflowers, coneflowers, thistles, asters, fleabanes, yarrows, golden-rods, tansies, sneezeweeds, burdocks, artemisias and wormwoods, cat's-foot, tick-seeds, elecampane, boneset, chrysanthemums, colt's-foot and many others are shown; the Jerusalem artichoke, one of the sun-flowers, a native of eastern North America, bears edible tubers.

(b) MORPHOLOGICAL GARDEN

This is located to the north of the systematic collection, the two collections being separated by the driveway which crosses the valley. It is designed to illustrate here with typical examples the organs and other features of plants, including leaf-forms and the various modifications of their margins, their venation and insertion on the stem; also the various kinds of stems, methods of propagation, flower-clusters and fruits, leaf-movements, parasites, desert plants and seed-dispersal. Looking north on this collection, the first bed to the right of the brook contains plants illustrating simple leaf-forms. Immediately following this on the same side of the brook are the plants representing the various forms of com-

pound leaves, or those in which there is a distinct jointing of the leaflets to the leaf-axis. Farther along the brook, in the pool, may be found various forms of aquatic roots, stems and leaves; and a little beyond this to the right is the bed containing plants illustrating forms of propagation.

The remaining plots of this collection are located on the left hand or westerly side of the brook. The first of these to the right is devoted to leaf-venation, and the one to the left to leaf-margins, the former illustrating the character of the veins and nerves, and the latter the toothing or lobing of the margins. Beyond this to the right is the group of plants showing the manner of insertion of the leaves on the stem; and to the left of this are specimens illustrating the various ways in which plants may form a mosaic covering on the ground. A little beyond are the examples of stem-forms. One bed is devoted to show the smaller kinds, while for the larger examples, illustrating tree, twining, root-climbing and tendril-climbing stems, specimens have been selected or placed to the left of this bed and properly labeled.

A little beyond the pool may be found the bed illustrating flower-clusters, and still further on that devoted to parasitic plants, or those deriving their nourishment from the living tissues of other plants. To the left of this and farther up the hill is the group of plants showing leaf-positions. Beyond and a little to the right are plants which are at home in desert regions, and the various means of accommodating themselves to their natural surroundings are shown. Further on to the right is the bed devoted to fruit-forms; and to the left of this, one showing various forms of seed-dispersal; those with the surface of the fruits covered with some sticky substance or curved appendages or hooked hairs or spines require the intervention of some animal for their distribution, while those with wings or with hairs attached to the seed are spread through the agency of the wind. To the right of the above are plants representing a species and a variety, and to the left of this is a bed containing plants showing species and hybrids.

(c) ECONOMIC GARDEN

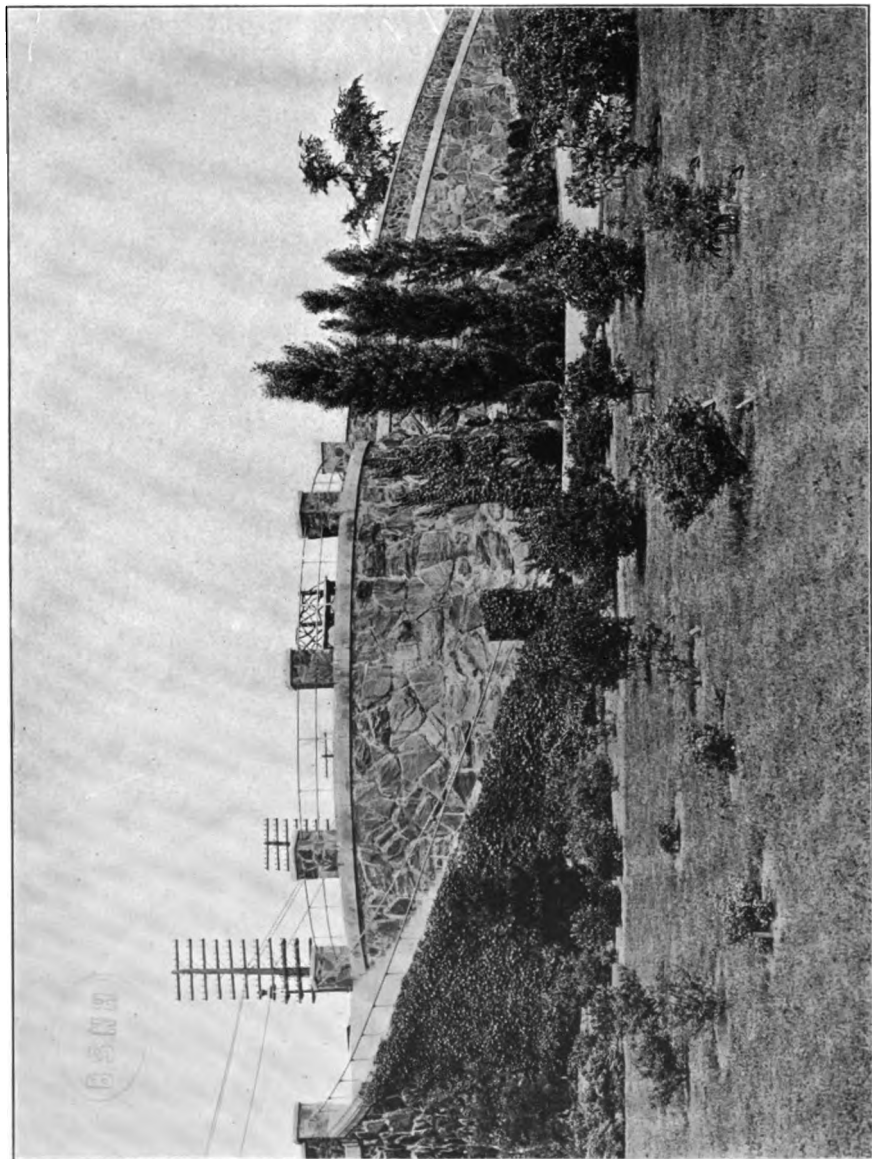
The collections illustrating food plants and those producing substances directly useful to man in the arts, sciences and industries are being installed at the northern end of the long glade containing the herbaceous collections just described.

On the east side of the broad central grass path and the brook are located plants used for medicine, those employed as condiments or relishes and a number of plants from which the fiber is used in the manufacture of various fabrics. The bed containing the plants used for condiments or relishes is at the extreme north end of the collection, while that devoted to the fiber plants is at the southern end. The remaining beds are given over to medicinal plants. The medicinal plants which grow in wet or moist situations may be found on the easterly side of the brook. Along the woodland border is also a collection of medicinal shrubs and trees.

On the west side of the grass path and brook are the food plants. Here may be found many of the common fruits and vegetables. A general sign is placed in each of the beds denoting what its contents are intended to represent, and in front of each plant is a smaller label giving individual information. Along the stone path is a collection of shrubs and trees, containing some of the more common plants producing edible nuts and fruits.

(d) VITICETUM

The area devoted to the plantation of vines is at the easterly side of the economic garden. Hardy vines, whether woody or herbaceous, belong here, and a rough arbor has been constructed for them to climb on. This collection is now being developed, and only a few of the species which it is intended eventually to grow there are as yet in place. The families will be referred to below in the order of their sequence. The arrangement begins at the southerly end of the arbor, on the left hand side, with the smilax family, to which belong the green-briers or cat-briers. The yam family is placed immediately opposite to the right, followed by the



APPROACH TO THE WOODLAWN ROAD ENTRANCE

mulberry family on the same side. The birthwort family, with the dutchman's-pipe as a representative, follows the smilax family on the left, and opposite to this is placed the buckwheat family, to which belong the climbing bindweeds and brunnichia. On the left hand side, and beyond the birthwort family, is the akebia family, where one may find the five-leaved akebia, a native of Japan. Following this on the same side is the moonseed family, to which belongs the Canada moonseed. On the opposite side of the arbor is the hydrangea family. The next family, occupying both sides of the arbor, is the rose family, where may be found some climbing roses. Following this, also on both sides of the arbor, is the pea family, where one must seek the peas and wistarias. Further on, occupying both sides, is the staff-tree family, where may be found the climbing bitter-sweet and other vines of this family. Succeeding this comes the grape family, to which belong the grapes, the Virginia creeper and the Japanese ivy. On the right, beyond the grape family, is the actinidia family, represented by the toothed actinidia. Opposite to this is the morning-glory family, where the morning-glories and moon-flower belong. Then comes the trumpet-creeper family, of which the trumpet-creeper, a native of the southeastern United States, is a member. This family in turn is followed by the honeysuckle family, represented here by several species of honeysuckle and woodbine. The sequence terminates with the gourd family, to which belong, as economic plants, the watermelon, cucumber, squash, muskmelon and gourds; a common vine of eastern North America, and frequent in the valley of the Bronx, is the one-seeded bur-cucumber, or star-cucumber, also a member of this family.

5. The Fruticetum

[COLLECTION OF SHRUBS]

This plantation, occupying about 16 acres, is located to the northward of the lakes in the rear of the museum building,

and is confined to the area lying between the lakes, the railroad, the woodland on the east, and the north meadow. In this collection are brought together all the hardy woody plants which are shrubs, that is, plants with woody stems which branch from the ground and have no single main stem. The arrangement here parallels that in the herbaceous grounds and in the other systematic collections. The sequence begins on the southerly side near the large stone bridge which crosses the Bronx River, and proceeds on both sides of the path running to the north along the edge of the woods, returning southward on both sides of the path paralleling the main north and south driveway, to the plum family, on the bank overlooking the easterly lake. It then crosses to the senna family directly opposite and overlooking the westerly lake, proceeding northward from there across the transverse driveway, and following the line of the path paralleling to the westward the main north and south driveway. The sequence then continues to the westward along the north path, again extending southward at the Woodlawn Road entrance, continuing on both sides of the westerly path and terminating with the thistle family at the westerly end of the lake near the railroad border. The families will be referred to below in this sequence.

The pine family, represented by some of the low-growing junipers and pines, begins the sequence to the southward of the approach to the long bridge. The next is the willow family, beginning across the road from the pine family; this group is located on both sides of the path and comprises many forms from various parts of the world; the family is largely an inhabitant of temperate regions, so many species can be grown here. The bayberry family occurs across the driveway from the willows, occupying a position on the bank overlooking the easterly lake. Here may be found the sweet-fern, a native of eastern North America; the sweet gale, at home in north temperate regions; and the waxberry or bayberry, common in eastern North America; the berries of the latter have a covering of wax,

which was separated by throwing the berries into hot water, when the wax melted and rose to the surface, where it was skimmed off; it is still used to some extent in making candles. The birch family follows the willows on the east side of the path; here are the hazel-nuts, the alders and the shrubby birches; the common hazel-nut and the beaked hazel-nut, both from North America, also the common hazel-nut or filbert of Europe, and others; the smooth alder, common along streams and in swamps, is also here. Following the birch family on the same side of the path comes the beech family; here may be found the shrubby oaks and the chinquapin of the southeastern United States. On the same side of the path, a little farther along, is the elm family, represented by the dwarf elms; most of the members of this family are trees and may therefore be found in the arboretum. Immediately following this is the mulberry family, represented here by two specimens of the Tartarian mulberry. At the triangle a little further on is the cercis-leaf family, represented by the cercis-leaf (*Cercidiphyllum*), a Japanese tree, and known to the people there as katzoura; there are three specimens of this, most attractive in the spring with their tender greens flushed with rose.

The crowfoot family occupies a space just to the north of the willows west of the path, and is represented by the mou-tan or tree peony, from China, and the shrub yellow-root (*Xanthorrhiza*), from the eastern United States; its roots are yellow, and at one time were employed as a dye; there are many herbaceous members of this family at the herbaceous grounds. The barberry family is a little farther north on the same side of the path; many species of barberries and mahonias occur here. Among the barberries may be mentioned: the common European barberry, the ripe fruit of which is sometimes made into preserves, and the unripe ones pickled as a substitute for capers—its bark is used as a dye and for tanning leather; Thunberg's barberry, from Japan, a desirable plant for small hedges and for the borders of walks; the neat barberry, from the Himalayan region, which

colors a beautiful red in the fall; and the large-toothed barberry, from Nepal; the mahonias are represented by the erect Oregon grape, from northwestern North America; and the Japanese mahonia. The magnolia family occurs a little back from the path, between the crowfoot and barberry families; there are here several species of shrubby magnolias. The strawberry-shrub family follows the barberries, immediately across the path from the cercis-leaf family; here may be found several species of the strawberry-shrub, including the hairy one which has the fragrant flowers scented like the strawberry; the fragrant *Chimonanthus*, from Japan, is a member of this family, and is known to the natives there as karamume. A short distance to the eastward of the cercis-leaf family is the laurel family, represented by the spice-bush (*Benzoin*), a native of northeastern North America; as the different kinds of flowers, staminate and pistillate, are borne on different plants, only those having pistillate flowers bear the bright red berries in the summer and autumn. To the west of this is the Virginia willow family, with shrubs of the Virginia willow, a native of the southeastern United States. To the north of this is the hydrangea family; here may be found the syringas, the deutzias and the hydrangeas, several species of each; the mock orange (*Philadelphus*), a native of Europe, indicates its presence by the rich fragrance of its flowers; the slender deutzia, from Japan, bears its long slender clusters of white flowers in great profusion; the large-flowered hydrangea, a Japanese plant, bears a profusion of large bunches of white flowers, which in the late summer and autumn change to a beautiful rose color; the oak-leaved hydrangea is perhaps the oddest member of this genus; it is native from Georgia and Florida to Mississippi. Following the hydrangea family comes the gooseberry family, and to this belong the currants and gooseberries; one of the showiest is the long-flowered golden currant, from western North America; its rich yellow flowers give forth a delicious spicy fragrance. The witch-hazel family is located to the north of the north path; here is the common witch-hazel, of eastern

North America, from which the extract of witch-hazel, or Pond's extract, is made; the spiked corylopsis, a Japanese shrub, belongs here, as do the fothergillas of the southeastern United States.

The rose family occupies a large area, beginning just north of the gooseberries and currants and extending westward to the main north and south driveway, and southward along that as far as the first transverse path; here belong the spiraeas, of which there are many forms, the blackberries, the raspberries, the roses and others. Among the spiraeas, the steeple-bush or hard-hack and the willow-leaved meadow-sweet, or quaker-lady, are common as wild plants in this latitude. Other interesting forms are Thunberg's spiraea, from Japan, and other Japanese spiraeas. Among other plants of interest in the group which contains the spiraeas are the large-flowered exochorda, a native of northern China, with its profusion of white flowers in early summer; the Japanese rose, from Japan, not a true rose, however, with bright yellow flowers; another shrub from Japan, known to the natives of that country as siro yama buki, bears large white flowers resembling in appearance those of the mock orange; two other Japanese shrubs, members of the same genus, and known to the natives there as kago ma utsugi and yama doosin, respectively, the former an exceptionally graceful and attractive plant; *Neviusia*, an extremely local plant, known in a wild state only in Alabama; and the nine-bark, of eastern North America. To the southward of the spiraea group comes the collection of blackberries and raspberries (*Rubus*) represented by many kinds; two of the showiest are the Japanese wineberry and the purple flowering-raspberry, the latter common in rocky woods in this part of the country. Farther to the south, and bordering both sides of the transverse path, is the group of the true roses; many kinds may be found here, including the sweet-brier, the dog-rose, or wild brier, and the red-leaved rose, all natives of Europe; the low or pasture rose of eastern North America; and the odd-looking Watson's

rose, a native of Japan. Numerous herbaceous species of the rose family are grown at the herbaceous grounds.

Following this is the apple family; to this belong the apples and pears, many of which, being trees, may be found in the arboretum. Of a shrubby habit, and therefore members of this collection, are many of the hawthorns or thorn-apples, the quinces, the rose-boxes, the choke-berries, the service-berry and the shad-bush. Southward across the driveway from these, and overlooking the easterly lake, is the collection illustrating the plum family, to which belong the plums, cherries, apricots and peaches. As many of the species of this family are trees they may be found at the arboretum. Among those represented here are the western sand cherry, of northwestern North America; the three-lobed peach, a native of China, with its double-flowered form; the dwarf peach, from Europe; and the Russian almond, of Russia and western Asia.

Crossing the driveway to the west, the sequence is again taken up on the ground overlooking the west lake, with the senna family, represented by the Asiatic Judas-tree, of China and Japan, and the American Judas-tree of the eastern United States; in spring, before the appearance of the leaves, these are profusely covered with pink or purplish flowers. Across the transverse driveway to the north, and directly on the opposite side, may be found the pea family. Here are various species of the pea-tree: the pigmy pea-tree, from the Himalayan region; the Chamlagu pea-tree, from China; the common pea-tree and the small-leaved pea-tree, both from Siberia. In the fall the two-colored bush-clover, from China, is a show of purple bloom. The white broom, the common broom and the dense-flowered broom, all of Europe, have representatives here; of these, the common broom, in Spain and France attains the size of a small tree, and its wood is highly prized for veneering and cabinet work; its branches are extensively employed for making brooms, whence its common name. Other plants of interest are the false indigo and the bristly locust, both from the southeastern United States; the woody

bladder-senna, from Europe and the Orient; and the scorpion senna, from southern Europe. Immediately beyond is the rue family, illustrated by the shrubby trefoil (*Ptelea trifoliata*) of the eastern United States; the prickly ash, from the northeastern United States; and the trifoliolate orange, from Japan, which has been used as one of the parents in the recent hybridization experiments by the U. S. Department of Agriculture in its effort to produce a more hardy orange; the lemon and forms of the orange may be found in the conservatories, together with other woody members of this family. The tanners'-tree family comes next with a single representative, the tanners'-tree, from the Mediterranean region. Following this is the box family, represented by a number of forms of the box-tree, from Europe, Asia and Japan; the wood of the box-tree is highly prized for wood-engraving, on account of its hardness and close fine grain, and it takes a fine polish. A few steps further on is the sumac family, to which belongs the common poison ivy, so frequent in and around New York City; here are the fragrant sumac, the mountain sumac and the smooth or scarlet sumac, all from the eastern United States; Osbeck's sumac is a stately shrub from China. The European and the American smoke-trees (*Cotinus*) are relatives of the sumacs; the former is sometimes called the wig-tree, on account of the flower-clusters which become white and feathery in fruit; a dye is obtained from it which is called young fustic.

Crossing the transverse path to the triangle, the holly family is on the nearest point, shown by the serrate holly and the crenate holly, both from Japan; the European holly is grown in the conservatories and the American holly at the arboretum. The Virginia winter-berry, of the eastern United States, bears its bright red berries far into the winter. On the opposite corner of the triangle is the staff-tree family, illustrated by many forms of *Euonymus*; the European staff-tree, the burning-bush of the eastern United States, the winged spindle-tree of eastern Asia and Bunge's spindle-tree of the Amur region are shown. Crossing the path to the north

of the triangle we come to the maple family; most of the maples are trees, so they must be looked for in the arboretum, but here are specimens of the Ginnala maple, from northern China and Japan. Immediately beyond this is the bladder-nut family, represented by species of the bladder-nut (*Staphylea*), both from the New and the Old World. Following the path to the west, we come to the buckeye family, represented here by the small-flowered buckeye, from the southeastern United States; many of the buckeyes and horse-chestnuts are trees, and are grown in the arboretum. Following this is the soapberry family, with the genus *Canthoceras*, a native of China, as a representative. At some distance from the path to the left is the buckthorn family; the most familiar plant here is the New Jersey tea, or red root, of eastern North America; its leaves have been used as a substitute for tea, and it is said that the industry is being revived in Pennsylvania; the jujube-tree, an inhabitant of the Mediterranean region and temperate Asia, is of this family, its edible fruit oval in shape and about the size of a plum, with an acid taste when fresh; the Dahurian buckthorn, growing wild from central Asia to the Amur region, and the purging buckthorn of Europe, the berries of which are medicinal, are here; from the juice of the ripe fresh berries of the purging buckthorn, mixed with alum, is made the pigment, known as sap-green or bladder green, used by water-color artists. The mallow family, further along the path, is represented by two specimens of the rose-of-Sharon (*Hibiscus syriacus*), from western Asia, and often found escaped from cultivation in the eastern United States; many herbaceous representatives of this family may be found at the herbaceous grounds. Near the mallow family is the tea family, represented by the mountain *Stuartia*, from the southeastern United States; other members of the tea family, including the tea plant and the common camellia, may be found in the conservatories. Also near the mallows may be found the St. John's-wort shrubs (*Hypericum*), with their showy yellow flowers. Farther on, where the path bends to

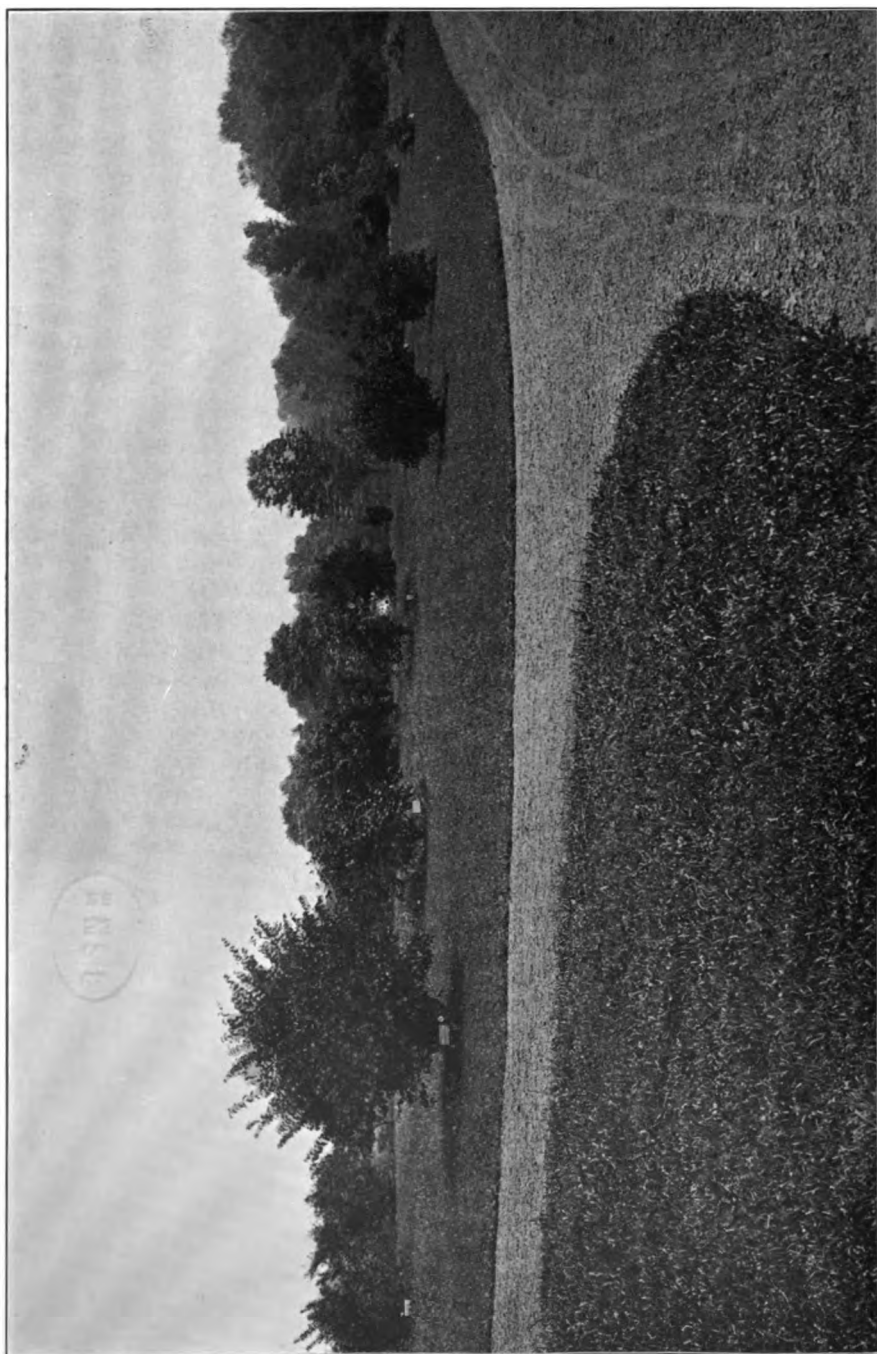
the left, is the tamarix family, represented by several species of tamarix, Old World plants. Next comes the mezereon family, having as a representative the leather-wood or moose-wood (*Dirca*), of the eastern parts of North America; the name leather-wood refers to the very tough inner bark; the bark is a violent emetic.

Some distance from the path and opposite the Woodlawn Road entrance, is the oleaster family, including several species of oleaster, the buffalo berry and the sea-buckthorn, a native of Europe, the berries of which are acrid and poisonous; the berries of several of the species of oleaster are edible; the buffalo berry, of northwestern North America, is largely eaten by the Indians of that region; the berries of the oriental oleaster, known as Trebizond dates, are made into cakes by the Arabs, after having been dried. Plants of the ginseng family form a group opposite the same entrance, some of these being quite tropical in aspect; the Japanese angelica-tree, from Japan, is one of these, and another is Maximowicz's acanthopanax, also from Japan; the variegated Chinese angelica-tree, a native of China, is quite ornamental. Beyond this group, and on both sides of the transverse path, is the dogwood family, shown by many species of dogwood or cornel (*Cornus*), from both the Old World and the New; the red-osier dogwood, the kinnikinnik and the panicle dogwood are American representatives; the officinal dogwood comes from Japan and is known there as sandzaki; the dogberry, gater-tree, or hound's-tree, is from Europe and western Asia; its wood is hard and is sometimes made into butchers' skewers and tooth-picks; in France, an oil used for burning and in soap-making is extracted from the black berries.

Across the path from the dogwoods, at the foot of the steps, may be found the white-alder family. Here are the Japanese sweet-pepper bush and the North American sweet-pepper bushes or white-alders, their fragrant white flowers appearing in August. The heath family is next, represented by many forms of azeleas and rhododendrons; the Japanese

Pieris is a pretty plant, and another of the same genus, from the southeastern United States, is called stagger-bush. Following the path to the south, we come next to the huckleberries and to the shrubs of the storax family. On the other side of the path is the olive family, which covers a large area, extending along the path for a considerable distance; the olive-tree is the type of this family, and specimens may be found at the conservatories; in the fruticetum are several forms of the golden-bell (*Forsythia*), from China; a number of the privets, including the California privet, so much used for hedges; a variety of lilacs (*Syringa*), including the Rouen lilac, from China, the Pekin lilac, from southern China, the Himalayan lilac and the common lilac, a native of eastern Europe, so frequently cultivated in gardens, and the adalias. To the right of the path and following the storax family is the logania family, with species of *Buddleia*, including the showy variable buddleia, from China. Following this is the vervain family, and some of these shrubs are especially attractive in fruit, among them being the purple callicarpa, from China, and the Japanese callicarpa; most attractive is the late-flowering clerodendron, a Chinese plant, whose flowers have a delicious spicy fragrance, much like that of the sweet-pepper bush; the sepals are a beautiful rose color, while the corolla is creamy white; it blooms late in the summer or early fall, when flowers of shrubs are few.

We next come to the potato family, shown here by the matrimony vine, a native of Europe, but often found growing wild, its purple flowers followed by bright red berries; most of the hardy representatives of this family are herbs, so must be sought for in the herbaceous grounds, while many of the woody species, and some of the herbs, are tender, and may be found in the conservatories. The succeeding group is the honeysuckle family, to which is allotted a large area, there being many hardy kinds; the viburnums are represented by many species, both from the Old World and the New, such as the cranberry-tree, from north temperate regions, ornamental by its masses of bright red fruit; the dwarf cran-



VIEW IN THE FRUTICETUM, OR SHRUB COLLECTION

berry-tree, an exceedingly compact form, very dense in its growth; the Chinese viburnum, from China and Japan; Siebold's viburnum, from Japan; the Japanese snowball, from China and Japan; the wayfaring tree, from Europe and Asia; and the woolly viburnum, from China and Japan; among American forms may be mentioned the arrow-wood, the coast arrow-wood, the black haw or sloe, the withe-rod, and the larger withe-rod with its large bunches of showy fruit. The group of the honeysuckles occupies a position across the path from the viburnums, and here may be found, among others, the fragrant honeysuckle, from China, one of the first to send forth its blossoms richly laden with perfume; Morrow's honeysuckle, from Japan, covered with coral-red fruit in late summer and fall; Standish's honeysuckle, from China; the narrow-leaved Albert honeysuckle, from Turkestan; the blue fly-honeysuckle, from north temperate regions; and the golden-veined honeysuckle, from China and Japan, with the veins richly marked with yellow, or sometimes the whole leaf yellow. Across the transverse path to the south, and overlooking the lake, may be found the weigelas, symphoricarpos and the diervillas; the weigelas are illustrated by many showy forms, flowering in early summer; the showiest *Symphoricarpos* is the snowberry, native of northern North America, laden in autumn with its ivory-white fruit, making it most attractive; the diervillas are represented by two or three species, including the bush honeysuckle, a native of northern North America. The elder-berries (*Sambucus*) are also represented by two or three species. The Chinese abelia will also be found here; its fragrant flowers are borne in great profusion during late summer and early fall; the sepals are deep red-brown and the corolla is white, flushed with rose, making a pleasing combination.

Following the viburnums comes the thistle family. Few of the woody species of this family are hardy in this latitude, but large numbers of the herbaceous species may be found at the herbaceous grounds. As representatives in the frutice-

tum, we have the groundsel-bush or pencil-tree (*Baccharis*), a native of the southeastern United States, bearing in the fall a profusion of white fruit, making it a most attractive object; and some of the shrubby wormwoods (*Artemisia*) of the Old World.

Salicetum.—The area occupied by this plantation is between the main driveway and the Bronx River, north of the fruticetum, and comprises several acres. Here are brought together moisture-loving willows (*Salix*) and poplars (*Populus*) as a collection apart, many species grown here not being represented in the arboretum and fruticetum. Immediately beyond the uncompleted north path at the fruticetum is a row of poplars, fringing the southerly end of the north meadow, consisting of several trees each of Simon's poplar, from China, and Wobst's poplar, a Russian species. In the corner of the salicetum, next to the driveway, is a group of willows, consisting, in part, of the red-stemmed yellow willow, of horticultural origin, and the Ural purple willow. To the east of this may be found the golden, or yellow willow, of common occurrence in eastern North America, and Bashford's willow, a native of France. Along the west bank of the Bronx River may be found a row of trees of the cottonwood, or Carolina poplar, found wild in eastern North America; and another row of the weeping willow, a native of Asia. At the northern end of the area devoted to this plantation are to be found, among others, the purple willow, a native of Europe; and the black willow, of North America. Many other species are represented in this collection.

6. The Deciduous Arboretum

This plantation extends over most of the garden area east of the Bronx River. The sequence of plant families begins at the southeast entrance to the grounds and continues northward to the northern boundary, occupying the easterly ridge and the low grounds adjacent thereto. Here hardy trees are brought together, trees being regarded as woody plants which have a single main stem arising from the ground and not



VIEW IN THE ARBORETUM

branching until some distance above it. This collection is only partially formed, but additions are made to it every season. The groups will be referred to in the order of their sequence.

The first is the willow family which occupies the low-lying land near the southeast entrance and the ridge to the north, where a collection of willows and poplars may be found. Of these Simon's poplar, from China, is of rapid growth and upright habit, and more graceful than the cottonwood or Carolina poplar; the American aspen, a native of northern North America, the wood of which is largely manufactured into pulp for the making of paper; in northern British America it is the principal fuel of the Indians, as it burns freely when green and without sparks; the inner bark, which is sweet, is often used by them as a food in early spring. This tree has been of great service in re-foresting large tracts which have been denuded by fire; the long hairy appendages to the seeds enable the wind to carry them far and wide, and as they germinate quickly and the young seedlings grow rapidly in exposed situations, it is admirably adapted to the above purpose, quickly furnishing a covering for the land until more desirable trees may get a foothold. Bolle's poplar, a form of the white, or silver-leaf poplar, is quite ornamental in its lobed leaves; the white or silver-leaf poplar is a native of Europe and Asia. Another ornamental tree and one frequently used where quick growth is desired, is the eastern cottonwood, or Carolina poplar, common in eastern North America. There also is the Lombardy, or Italian poplar, from Europe and Asia, with its tall spire-like growth. Among the willows are the golden willow, from eastern North America, and the weeping willow, native of Asia, a tree commonly planted for ornamental purposes, and sometimes known as Napoleon's willow.

The walnuts and their relatives may be found to the west of the nursery on the ridge. The narrow-winged wing-nut, from China, and the Rhoecaleaved wing-nut from Japan, are both here. Of the walnuts (*Juglans*), the English wal-

nut, native from southeastern Europe to China, produces a most desirable nut, often called Madeira nut; the Romans introduced it into Italy, and from that place as a center its cultivation has spread in all directions, both in the Old World and the New; the nuts form a common article of food in southern Europe; in Europe and northern India an oil, called walnut-oil, used as a substitute for olive-oil, is obtained by subjecting the seed-leaves to pressure. The black walnut and the butternut are both wild elsewhere in the Garden. The pecan-nut (*Hicoria pecan*), wild in the south central United States, is another nut of popular favor, as is also the big shag-bark, or king-nut, of the eastern United States. The water hickory, of the southeastern United States, and the bitter-nut or swamp hickory, of eastern North America, are both represented, while the common shag-bark hickory and the pig-nut grow elsewhere in the grounds.

The birch family is located on both sides of the driveway to the south and southwest of the stable, where birches, alders and hornbeams are planted; the Japanese hornbeam is represented by a single specimen along the road to the propagating houses; the American hornbeam is common in Bronx Park, and the hop-hornbeam is occasional. Those desiring to study the birches (*Betula*) will find several species available; one of these is the yellow birch which grows wild in eastern North America, and is one of our most valuable timber trees; the wood, on account of its closeness of grain, strength and hardness, is suitable for many purposes. Another is the paper, or canoe, birch, of frequent occurrence in northern North America; the wood of this is preferred to that of any other tree for the manufacture of spools, and is also used in the manufacture of shoe-lasts and pegs; the Indians also make use of its wood in the manufacture of sledges, and from its tough bark they also make canoes and baskets. The Japanese white birch, a close relative of the American and European white birches, is represented. The river or red birch may be seen here; it is frequent along streams and lakes in the eastern parts of the United States; its wood is used in

the manufacture of furniture. The black, or sweet birch, and the poplar-leaved birch are wild elsewhere in the Garden. The alders are present in several species: the dye alder, of Japan, which becomes a large tree; the Japanese alder, also of Japan; the speckled, or hoary, alder, of north temperate regions; and the European tree alder.

The area devoted to the beech family lies to the westward of that assigned to the walnut and birch families, and on both sides of the road leading to the Lorillard mansion. The oaks, the chestnuts and the beeches belong here. The oaks (*Quercus*) are represented by many species. One of those to the east of the road referred to above is the pinnatifid-leaved oak, from Japan, with its odd leaves cut into long linear lobes; it is said to be a form of the toothed oak of Japan. Near by is the rock chestnut oak, of eastern North America; its wood is strong and durable, especially when in contact with the soil, and is therefore of great value for railroad ties and fence posts, and its bark is largely used for tanning. The mossy-cup, or bur oak, also of eastern North America, may be found here; this was discovered by the botanist Michaux in 1795, and is a valuable timber tree, its wood largely used for boat-building, for the manufacture of carriages and agricultural implements, for the interior finish of houses, and, on account of its durability in contact with the soil, for railroad ties. To the west of the road may be found other oaks. The red oak and the swamp white oak are natives of eastern North America; the latter is also a good timber tree, its wood being used for cabinet work and in various kinds of construction. The Japanese silkworm oak forms a part of this collection; its leaves are much like those of the chestnut, and might easily be mistaken for them; it is often planted in Japan in the silk districts, as its leaves are available as food for the silkworms, whence its name; the Japanese make charcoal from its wood, and from the bark they extract a black dye. The post, or iron oak is a native of the eastern United States. Here may be seen also the sessile-flowered English oak, a native of Europe and western

Asia. The large-toothed oak, of Japan, a valued timber tree there, is represented near by; as is also the gland-bearing oak, another Japanese species. The shingle, or laurel oak, of the central parts of the United States, is not of much commercial value, as its wood checks badly in drying; it is sometimes used in making clapboards and shingles. Schneck's red oak comes from the south central parts of the United States. The Turkey oak, of southeastern Europe and western Asia, is valued in that region on account of its bark which is used in tanning leather. The swamp oak, the scarlet oak, the black oak and the white oak are to be seen in large wild specimens elsewhere in the grounds.

The chestnuts (*Castanea*) are represented by the Japanese chestnut, of China and Japan; in addition to this, in various parts of the grounds, the American chestnut may be found as wild specimens. The beeches (*Fagus*) are located to the westward of the chestnuts, in the north part of the swale. The European beech and its purple-leaved variety may both be found here in small, recently planted trees. Small trees of the American beech are also here, but large wild specimens may be found along the driveways and paths in the vicinity; the wood of the beech takes a high polish and is largely used for furniture, while the nuts are edible. The uses of the European beech are about the same as those of the American.

The elm family, to which belong the elms, the hackberries, or sugarberries and the water-elms, is located on the ridge to the north of the stable. Among the elms (*Ulmus*) to be found here is the Scotch, or Wych elm, a native of Europe and Siberia; the late-flowering elm, growing wild from Tennessee to Alabama; the cork, or rock elm, of northeastern North America; the Chinese elm, of northern China and Japan; and the winged elm, or wahoo, of the southeastern United States. The American elm and the slippery elm are wild in the grounds. The hackberries (*Celtis*) represented are the southern hackberry, of the southeastern United States; and the American nettle-tree, or sugar-berry, of eastern North America. The water-elms are illustrated by the pointed



WATER-FALL IN HEMLOCK GROVE

water-elm, a native of Japan. The mulberry family is represented by the osage orange (*Toxylon*), trees of which may be found to the south of the driveway; it is a native of the central parts of the United States; the red mulberry and the white mulberry are wild. The cercis-leaf family has for a representative the cercis-leaf, of Japan, located just to the south of the row of tulip trees just east of the Bronx River. The magnolia family is planted in the swale lying between the two ridges. Fraser's magnolia is one of those to be seen here; it is a native of the mountain woods from Virginia to Florida and Mississippi. The tulip-tree is shown by a row of fine wild specimens just to the south of the long bridge over the Bronx River, the largest trees within the grounds of the Garden. This tree is native of the eastern United States and yields a valuable lumber known as yellow poplar or white-wood; the Indians formerly made their canoes from this wood. The laurel family is represented by the sassafras, many trees of which may be found wild in various parts of the Garden. The sweet gum (*Liquidambar*), also wild in the grounds, represents the witch-hazel family.

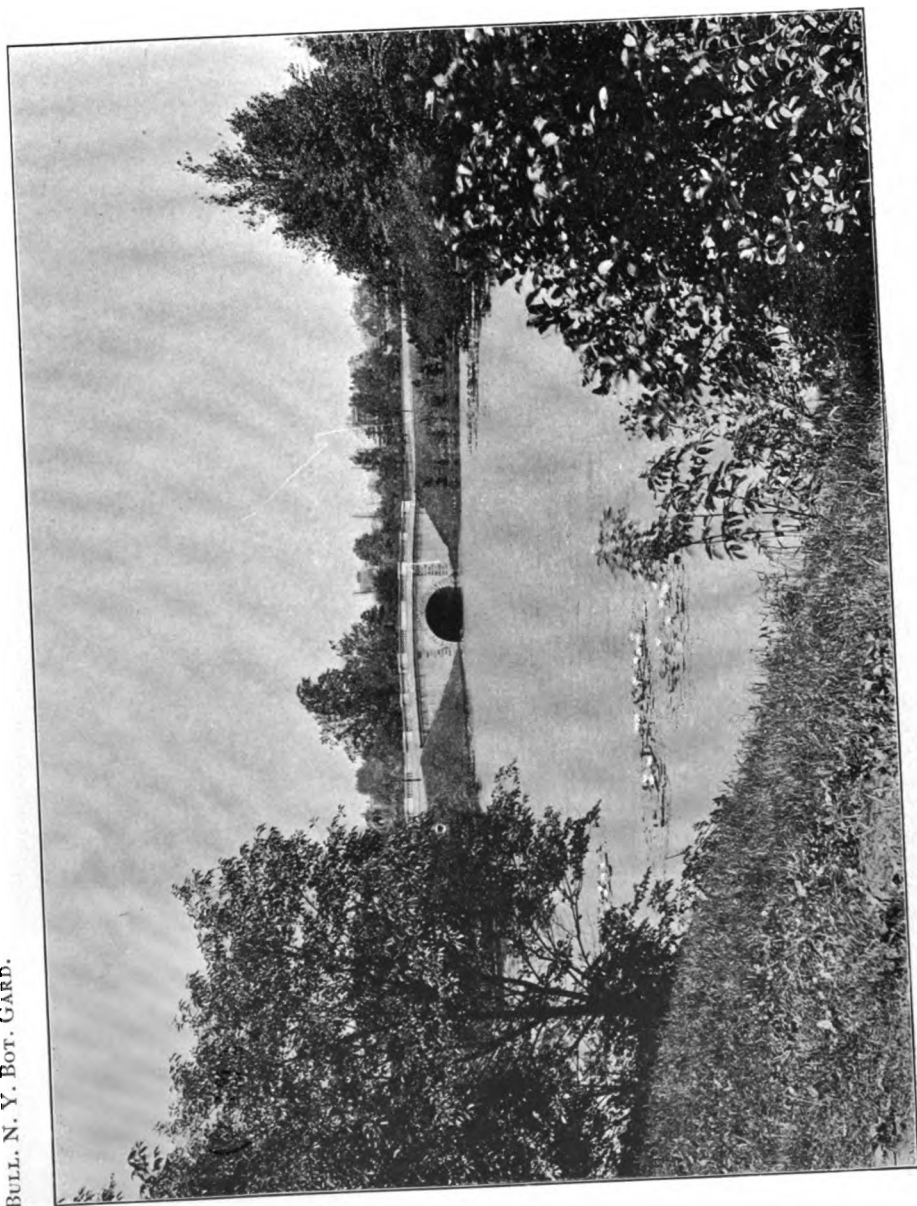
The plane-trees are to be found just to the north of the elms. Here is a small tree of the oriental plane, native from south-eastern Europe to India. A little to the southwest of this is a large specimen, native to the grounds, of the American plane, known also as the button-wood and button-ball, and there are many other wild trees along the Bronx River. The oriental plane is largely used as a shade tree in Europe and is sometimes planted in this country. The wood of the American plane, or button-wood, is largely used in the manufacture of boxes for tobacco, for furniture, and for the interior finishing of houses.

The apple family and the plum family are located to the north of the driveway leading to the long bridge. In the apple family may be found some of the tree hawthorns and thorns, including the Washington thorn, a native of the southeastern United States. Following to the west are some of the true apples (*Malus*), among them the Siberian

crab-apple, a native of eastern Asia; the prune-leaved crab-apple, a native of northern China and Japan; and Soulard's crab-apple, from the central United States. In the plum family, among others, may be found the rose-bud cherry, a Japanese plant, and a highly decorative species; the double form of the Japanese flowering cherry, native throughout eastern Asia; the ordinary sweet cherry, originally from Europe and western Asia, a delicious fruit, of which there are many horticultural forms; and the ever-blooming cherry.

Near the eastern end of the long bridge are trees illustrating the senna family, located south of the bridge approach, and the pea family, the rue family and the mahogany family on the north side. One of those in the senna family is the honey-locust or three-horned acacia (*Gleditsia*), a native of the southeastern United States; its durability when in contact with the ground makes its wood of especial value for fence posts, for which purpose it is largely used; from China and Japan comes the Japanese locust, also represented here. Another of this family is the Kentucky coffee-tree, in several large and small specimens. One of the representatives of the pea family, from the Amur region, is the Amur yellow-wood (*Maackia*). Another is the locust-tree (*Robinia*), a native of the southeastern United States, but extensively naturalized elsewhere; its wood is hard and close-grained, and is very durable when in contact with ground or with water, so the high value in which it is held for fence posts and for ship-building may be readily understood. The rue family has for representatives the Japanese cork-tree (*Phellodendron*), from Japan, and the Chinese cork-tree, from the Amur region, China and Japan. The mahogany-tree family has a single species represented, the Chinese bastard-cedar, a native of China; the mahogany tree itself, and other representatives of the family, will be found at the conservatories.

On the ridge to the northeast of the apple family, and to the west of conservatory range No. 2, are trees of the ailanthus family, represented by the *Ailanthus*, or tree-of-heaven, a native of China, but extensively naturalized in the eastern



LAKE BRIDGE

parts of the United States, where in some places it has become a nuisance, both on account of its ill-smelling staminate flowers and its habit of freely suckering from the roots.

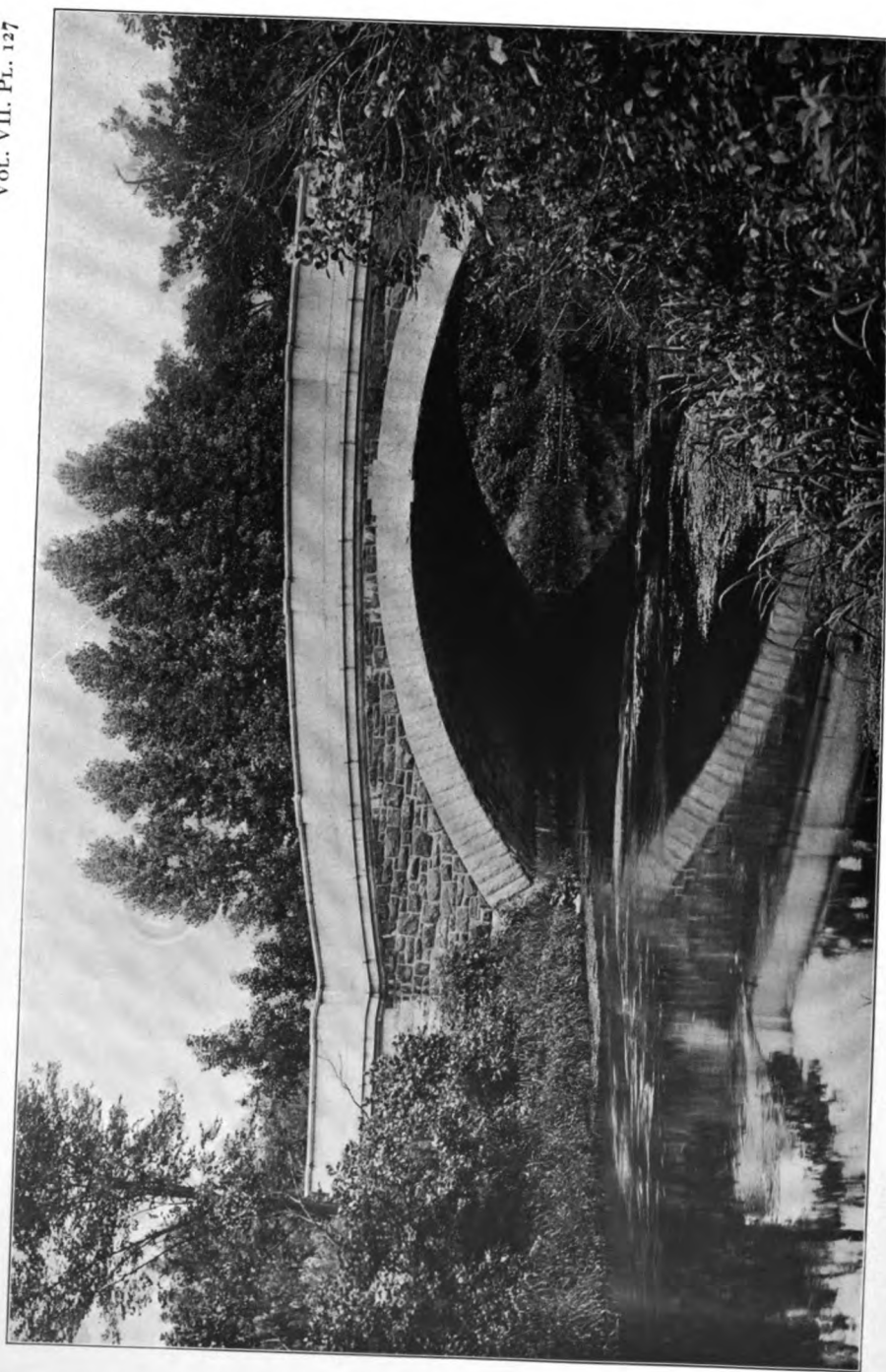
On the ridge to the west of conservatory range No. 2 are the maple and buckeye families. The maples (*Acer*) are represented by a number of species. Perhaps the most important of these is the sugar, or rock maple, a native of eastern North America, and the principal tree yielding maple sugar and syrup. The sap is usually collected from late in February to early in April; trees from twenty to thirty years old are considered the most productive, and a tree will usually yield in a season from four to six pounds of sugar, some giving less and others much more. This tree is often planted for shade along streets and in parks, its beautiful coloring in the fall enhancing its value for this purpose. Its wood is largely used for making furniture, in ship-building, for tool-handles and for shoe-lasts and pegs. Another tree here is the red maple, ranging throughout eastern North America; its wood is now used in large quantities for the manufacture of furniture of various kinds, for gun-stocks, etc. The striped, or goose-foot maple, sometimes known also as moosewood, of northeastern North America, is a pretty decorative species, especially attractive on account of the beautiful marking of its bark. Two Old World representatives are the common European maple, of Europe and western Asia, and the sycamore maple, from Europe and the Orient. The sycamore maple is a valuable timber tree in Europe; its wood is used in the manufacture of musical instruments, spoons and other household utensils. From the southeastern United States comes the white-barked maple, also in the collection. The ash-leaved maple, or box elder, of eastern North America, is represented by several specimens.

In the buckeye family, planted near power house No. 2, is the common horse-chestnut (*Aesculus*); for a long time the native country of this tree was unknown, and its home was ascribed by different authors to various lands; it has been pretty well established now that it is indigenous to the moun-

tains of Greece. Another tree here is the fetid, or Ohio buckeye, of the central United States; its wood, as well as that of some of the other kinds of buckeye, is manufactured into artificial limbs, for which purpose it is highly esteemed; it is also used for wooden-ware and paper pulp. To the north of the buckeye family is the linden family. The American linden, or basswood, found over the eastern parts of North America, is here; it produces a large amount of lumber under the name of whitewood, which is used in the manufacture of wooden-ware, furniture and carriage bodies; it is also largely used in the manufacture of paper pulp. Another species is the cordate linden, a native of Europe and Siberia, and a third is the white, or silver linden of eastern Europe.

Next in the sequence comes the ginseng family, represented by several species of aralia; many other species of this family may be found at the conservatories. West of these is the ebony family, represented by the persimmon or date-plum (*Diospyros*), a native of the southeastern United States; its wood is preferred for the manufacture of shuttles; its fruit contains tannin, which gives it its astringent properties; this fruit, when fully ripe, is eaten in large quantities in the southern states, and is also offered for sale in the markets of the north.

Beyond the ginseng family, on the western slope of the hill, is the olive family, represented by several species of the ashes (*Fraxinus*), some of which are useful for timber. The common European ash is to be seen, and among the North American representatives are the green ash; the Texas ash, restricted to that state; the Biltmore ash, from Pennsylvania to Georgia; the white ash and the red ash are common. Following to the north is the figwort family, represented by *Paulownia*, a native of Japan. Terminating the sequence is the trumpet-creeper family, represented by species of *Catalpa*; among these is the Indian bean, a native of woods in the Gulf States, and Kaempfer's catalpa, from China.



UPPER BRIDGE ACROSS THE BRONX RIVER

7. The Hemlock Forest

The forest of Canadian hemlock spruce along the Bronx River, within the portion of Bronx Park set apart for the New York Botanical Garden, is one of the most noteworthy natural features of the Borough of the Bronx, and has been characterized by a distinguished citizen as "the most precious natural possession of the city of New York."

This forest exists in the northern part of Bronx Park on the banks of the river and their contiguous hills; its greater area is on the western side of the stream, but it occupies a considerable space on the eastern side above the Lorillard mansion and below the boulder bridge. The area west of the river extends from just above this bridge down stream to a point nearly opposite the old Lorillard snuff mill, and is the part commonly designated "Hemlock Grove." Its total length along the river is approximately 3,000 feet; its greatest width, 900 feet, is at a point on the river about 700 feet above the water fall at the Lorillard mansion. The total area occupied by the trees on both sides of the river is between thirty-five and forty acres.

While this area is mostly covered by the hemlock spruces, and although they form its predominant vegetation, other trees are by no means lacking; beech, chestnut, sweet birch, red maple, hickory, oaks, dogwood, tulip-tree and other trees occur, and their foliage protects the hemlocks from the sun in summer to a very considerable extent; there are no coniferous trees other than the hemlock, however, within the forest proper. The shade is too dense for the existence of much low vegetation, and this is also unable to grow at all vigorously in the soil formed largely of the decaying resinous hemlock leaves; it is only in open places left by the occasional uprooting of a tree or trees by gales that we see any considerable number of shrubs or herbaceous plants, their seeds brought into the forest by wind or by birds. In fact, the floor of the forest is characteristically devoid of vegetation, a feature shown by other forests of hemlock situated further north. The contrast in passing from the hemlock woods to

the contiguous hardwood area which borders them to the west and north, toward the museum building and the herbaceous grounds, is at once apparent, for here we see a luxuriant growth of shrubs and of herbs, including many of our most interesting wild flowers.

8. The Gorge of the Bronx River

The gorge of the Bronx River extends from the boulder bridge at the north end of the Hemlock Forest southward for about a mile, nearly to Pelham Avenue, and is a most beautiful and picturesque natural feature, besides being of great geological significance. Its depth from the summits of the hills on both sides averages nearly 75 feet, and its sides below the foot-bridge at the Lorillard mansion are nearly vertical rock faces. The hills on both sides are heavily wooded with hemlock spruces and other trees. In the upper part of the gorge the Bronx flows slowly, being held back by the dam forming the water-fall at the Lorillard mansion, and the elevation of its surface is only a few inches higher at the boulder bridge than it is at the fall; after plunging over the dam, however, the river runs in its unobstructed natural channel with all the appearance of a mountain stream, which at high water is exceedingly beautiful.

9. North Meadows and River Woods

The Bronx River enters the northern end of the Garden from Williamsbridge and flows as a slow stream southward to the water-fall at the Lorillard mansion, its surface being nearly level throughout this distance. It is spanned just inside the northern boundary of the Garden by a concrete-steel arched bridge with granite copings, which carries the main park driveway across it near the Newell Avenue entrance. The entire northern end of the Garden is formed of the flood plain of the Bronx River, consisting largely of grassy meadows and marshes which at average flow of the stream are several feet above its surface, but which at flood time are occasionally submerged for short periods, the whole



BOULDER BRIDGE

valley being a very interesting illustration of the behavior of a small stream with a large water-shed at and about its sources. Considerable areas of the marshy land have already been reclaimed by filling, and by the lowering of the dam forming the water-fall at the Lorillard mansion; the general plan contemplates a much further reduction in the amount of marshy ground, and a further lowering and deepening of the river by dredging, in order to take off freshets with greater rapidity. A part of this flood plain is occupied by the plantations of willows and poplars already described, and these will be considerably extended, but large areas of meadow will be left in their natural condition.

South of these open meadows, the valley of the river is much narrower and is occupied by several acres of characteristic river woods, containing a considerable variety of native trees and shrubs, extending south as far as the long driveway bridge near the northern end of the hemlock forest.

Park Features

The whole plan of the development of the Garden has been designed in such a manner as to include all the features of a public park, and it has been carried out in close coöperation with successive park commissioners and engineers of the Borough of the Bronx. The grounds are open to the public every day in the year without any charge whatever. An elaborate series of driveways provides several miles of Telford-Macadam roads, most of which are now constructed, with suitable entrances at eight points as follows:

1. Mosholu Parkway. 2. Bedford Park Avenue. 3. Southern Boulevard. 4. Hemlock Forest. 5. Southeastern entrance (not yet constructed). 6. Bleecker Street. 7. Newell Avenue. 8. Woodlawn Road.

Paths located so as to lead to all the principal features are included in the plan, with an aggregate length of over ten miles and approximately one-half of this system has already been built.

All the roads and paths have been located so as to do no damage to the natural features of the grounds, particular care having been taken to save all possible standing trees and to avoid disturbing natural slopes except in the immediate neighborhood of the large buildings, where considerable grading has been necessary, but even here the study has been to adjust the new surfaces so that they shall merge imperceptibly into the original ones. Ornamental masonry retaining walls, made necessary by the grades of the roadways, have been built at the Mosholu Parkway entrance, at the Woodlawn road entrance, and at the approach to the Elevated Railway station, and vines have been planted at the bases of these walls which partly clothe them with foliage.

The plan of the driveway and path systems called for the construction of six bridges; three of these, first, the lake bridge, crossing the valley of the lakes near the museum building; second, the long bridge, which carries the driveway across the valley of the Bronx River north of the hemlock forest; and, third, the upper bridge which crosses the Bronx River at the northern end of the Garden, have been carried out in masonry arches from designs by Mr. John R. Brinley, landscape engineer of the Garden. A stone boulder foot-bridge of five arches, just at the northern end of the hemlock forest was built from designs by the same engineer; studies have been made for a bridge to replace the wooden bridge which crosses the gorge of the Bronx River at the Lorillard mansion; and the sixth bridge in the plan is a foot-bridge, not yet built, to cross the Bronx River in the north meadows.

The park treatment further contemplates the planting of shade trees where these are needed along the driveways, and much of this has been done, a great many kinds of trees having been used, and many shrub plantations have been set out, especially at roadway and path intersections, utilizing considerable numbers of the same kinds of shrubs at different points.



A PART OF THE BORDER SCREEN

The drainage of the grounds has been carried out in accordance with a well-studied original plan, which provides outlets for the surface drainage for the most part either into the lakes or into the river, only a small portion of it being taken into the sewers; a considerable portion of the drainage system still remains to be built.

The water supply has also been constructed in accordance with the general plan and the system is being extended from year to year as the development of the grounds proceeds.

The general planting plan includes provision for completely surrounding the grounds, except at entrances, with border screens. This planting has already been accomplished along the entire western and northern boundaries, and partly along the southern boundary. These screens are composed of a very great variety of trees and shrubs, variously grouped, and average about fifty feet in width. It has not been practicable hitherto to plant these screens along the eastern border of the park on account of being obliged to wait for the construction of the street known as the Bronx Boulevard or Bronx Park East, the land for which has recently been secured by the city by condemnation proceedings.

A feature of this border screen is an old-fashioned flower border, composed of herbaceous plants in large variety, which extends from the 200th Street, or Bedford Park Avenue, entrance northward to the New York Central Railroad Station and thence to the Mosholu Parkway entrance, and there is a similar plantation at the Elevated Railroad station; here herbaceous perennials are massed in front of a belt of flowering shrubs which in turn are backed by the trees of the border screen, and so selected that some of them are in bloom throughout the season. Among the plants used in this old-fashioned flower border are daffodils, crocuses, irises, phloxes, paeonies, rose mallows, sun-flowers, cone-flowers, coreopsis, columbines and many others.

Guides

In order to provide a method for viewing the collections under guidance, an aid leaves the front door of the Museum Building every week-day afternoon at 3 o'clock, to escort all who may wish to accompany him. The routes are as follows:

Monday: Hemlock Forest and Herbaceous Garden.
Tuesday: Pinetum. Wednesday: Fruticetum and North Meadows. Thursday: Deciduous Arboretum, Nurseries, Propagating Houses. Friday: Public Conservatories. Saturday: Museums.

City Ordinances

1. The picking of flowers, leaves, fruits, nuts, or the breaking of branches of any plants, either wild or cultivated, the uprooting of plants of any kind, the defacing of trees, and the carrying of flowers, fruits or plants into or from the grounds of the Garden, are prohibited, except by written permission of the Director-in-Chief of the Garden.

2. Leaving or depositing paper, boxes, glass or rubbish of any kind within the grounds of the Garden is forbidden.

3. Dogs are not allowed within the limits of the Garden except in leash.

4. It is forbidden to take fish from within the Garden, or to molest in any way squirrels, birds, snakes, frogs, toads, turtles or any other wild animals.

5. Throwing stones or other missiles, playing ball, football, tennis, or other game is prohibited.

6. It is forbidden to offer for sale food, candy, newspapers, books, tobacco, beverages, flowers or any other objects, without written permission from the Director-in-Chief and the Commissioner of Parks for the Borough of the Bronx.

7. Boating or rafting on the ponds, lakes and streams is forbidden.

8. Trucking, or the driving of business wagons of any kind, is forbidden on the roads of the Garden, except on those designated for such purposes.

9. It is forbidden to accept or solicit passengers for any cab, carriage, or other conveyance, at any point within the grounds of the Garden without written permission from the Director-in-Chief of the Garden and the Commissioner of Parks for the Borough of the Bronx.

10. Visitors are not allowed within the Garden after eleven o'clock at night nor before six o'clock in the morning, except upon driveways and paths designated for their use between those hours.

APPENDIX

NATIVE TREES OF THE HUDSON RIVER VALLEY*

BY NORMAN TAYLOR

The valley of the Hudson River contains most of the trees native in the northeastern United States. It is probable that all species which grew there at the time of Henry Hudson's visit in 1609, grow there today, although, owing to the clearing of land for agricultural purposes, and to the cutting of forests for wood, the number of individuals of most kinds has been much reduced.

In the following account, the trees known to grow naturally in the counties of New York and New Jersey which border the Hudson River have been included. A few of the species may not occur immediately within the topographical area of the valley itself but all the others might have been seen by the explorers.

White Pine

PINUS STROBUS

The white pine, one of the most beautiful and the best known of our native evergreens, is a tall tree reaching a maximum height of 200 feet in some parts of the country; but in the Hudson Valley it is never so tall as this. The trunk is continuous, but in some rare cases it forks. The bark is fissured on the old trunks, but smoother and greenish-red on the young ones. The system of branching is very characteristic and exceedingly graceful. The upper branches are somewhat erect, but the middle and lower ones stand out

* This descriptive list of trees growing naturally near the Hudson River has been prepared at the request of the Hudson-Fulton Celebration Commission.

N. L. B.



WHITE PINE

New Baltimore, Greene County, N. Y.

straight from the trunk, or even droop a little at their tips when old. As in all pines the leaves are very slender and sharp-pointed, whence the name "pine-needles." Unlike all the other Hudson Valley pines this species has five of these needles in a cluster; there is a little tubular sheath enclosing the bases of the leaves when young. In the white pine the leaves are from 3 to 5 inches long and pale green or bluish-green in color.

The flowers, which appear in May or June, and the subsequent seeds, are found at the bases of scales, the pistillate of which collectively form the well known "pine-cone." During the second year the scales of the cone loosen and release the winged seeds.

The white pine prefers sandy slopes and is found in all the counties bordering the Hudson Valley; rare and local on Staten Island, but abundant northward. Its timber is very valuable and few forests of it remain uncut. (Plate 131.)

Pitch Pine

PINUS RIGIDA

The pitch pine, a round-topped but often irregularly shaped evergreen, attains a height of 50 or 60 feet. The bark is coarse, irregularly and deeply fissured when old, and red-brown in color. The branches are stiff and stand out straight from the trunk, in age becoming twisted and irregular.

The bright green leaves are arranged in clusters of three, enclosed at the base by a sheath, and persistent for 2 or 3 years. They are stout, sharply but closely toothed and from $2\frac{1}{2}$ to 5 inches long.

The flowers come out in spring, the pistillate or "cones" being almost without stalks and arranged in clusters along the sides of the branches. They are scarcely more than $2\frac{1}{2}$ inches long and globose or ovoid in outline. The scales of the cone, which are armed with strongly recurved prickles, spread to release the seed during the second season.

The wood of the pitch pine is used for a variety of pur-

poses where coarse lumber is needed. As a source of turpentine it has been superceded by the southern long-leaved pine. We find it growing freely throughout the lower part of the Hudson Valley, and it forms most of the "pine-barrens" of Long Island and New Jersey. (Plate 132.)

Short-leaved Pine

PINUS ECHINATA

On Staten Island and in adjacent New Jersey the short-leaved pine reaches its most northerly known stations. The trunk is tall and somewhat tapering, and usually bears numerous branches that are slender and droop at the tip. The old bark is roughly fissured and usually reddish in color.

The leaves of the short-leaved pine are mostly in clusters of twos or threes. The bases of the leaves are enclosed by a tubular sheath which stays on as long as the leaf still clings to the branch; in this pine the leaves often persist for three or even five years. The "needles" are from 2 to 5 inches long and sharp-pointed, their margins are closely and finely toothed, thus feeling rough to the touch.

The flowers come out in April or May and the pistillate or "pine-cone" are almost always found at the sides of the branches on short stalks. Occasionally they may grow on the ends of the branches. Two or three, sometimes four, grow together, and after they spread their scales, which are prickly-tipped, they often hang on the branches for several years.

In North Carolina this evergreen is often tapped for turpentine, and it is used very generally for woodworking. It grows in sandy or clayey situations from Texas to Florida and northward to southern New York.

Scrub Pine

PINUS VIRGINIANA

In the lower Hudson Valley the scrub or Jersey pine as it is sometimes called is scarcely more than 40 feet tall, but in the west it is often 100 feet in height and 3 feet in diameter. The bark is reddish-brown and splits into large plates. The branches, several of which arise as successive whorls on the trunk, are slender and often drooping at their tips.



PITCH PINE

New Baltimore, Greene County, N. Y.

The leaves of the scrub pine are twisted and this character serves to distinguish it from all the other pines of the Hudson Valley. The "needles" are from an inch and a half to two and a half inches long and arranged two in a cluster, their bases being enclosed in a persistent sheath.

The cones are without a stalk and usually attached to the side of a branch but sometimes at the end of it. When closed they are conical in outline, but become ovoid when the scales loosen to release the seeds. The scales are prickletipped.

Commercially the tree is of little importance, the wood being soft and weak. It has little decorative value, except in picturesque masses, as it is more or less scraggy. It is much valued as a reforester, for it quickly covers burned or worn out areas. It reaches its northernmost limit on Staten Island and adjacent New Jersey.

Red Pine

PINUS RESINOSA

In favorable situations the red pine often attains a height of 120 feet, and a trunk diameter of 3 to 4 feet. The tall straight trunk is clothed with scaly reddish bark that is only shallowly fissured.

The sharp-pointed "needles" are arranged in clusters of two, and their margins are minutely toothed. They are from 5 to 7 inches long, slender and flexible. The infertile flowers bloom in May, followed later by the fertile flowers and "cones." The latter are oblong in shape, from $2\frac{1}{2}$ to $3\frac{1}{2}$ inches long, and composed of numerous scales that are turned backward at their tips, but are without prickles. These blunt-tipped scales of the cone distinguish this tree from all the other pines of the valley, except the white pine, from which the red pine differs in having only two leaves to a sheath instead of five.

The red pine is occasional in the upper Hudson Valley, and a record exists of its having once grown at Inwood on Manhattan Island. It is distributed from Nova Scotia to Minnesota and southward to the mountains of Pennsylvania.

American Larch**LARIX LARICINA**

The tamarack or larch is the only Hudson Valley conifer which loses all its leaves during a single season. It is a round-topped tree when young, but in age the branches often become contorted and consequently the whole tree is scraggy in appearance. The leaves are narrow, triangular in section, and bright green in color, becoming yellow before they fall in the autumn. They are usually not more than $1\frac{1}{2}$ inches long and arranged in isolated little clusters. The flowers come out in spring and the pistillate or cones are scarcely more than three quarters of an inch long. They mature during the first season.

The larch usually grows in cold bogs where it may form dense forests. It reaches its southerly limit in Pennsylvania and West Virginia. The wood is much used for railway ties, ship construction and for telegraph poles.

Swamp Spruce**PICEA MARIANA**

Within the Hudson Valley region the spruce, with the larch, seems to be confined to low bogs. Far north the tree grows on slopes and attains a height of 100 feet, it is never so tall as this in our area. The bark is thin, closely fissured and brownish in color. As in all the spruces the leaves are four-sided; in this sort they are not more than a half inch long, sharp-pointed, and bluish-green in color. They are usually scattered on the hairy twigs. The pistillate flowers or cones are fastened to a strongly incurved stalk. They are oval in outline and composed of numerous small scales which are notched at the top. The tree may often be seen with cones several years old still clinging to the branches.

The wood of the swamp spruce is soft and is occasionally used as lumber, but it is now an important source of paper pulp. It grows practically throughout the northeastern part of the continent, coming down as far south as Pennsylvania and West Virginia.

The red spruce (*Picea rubens*) also growing in the Hudson Valley may be distinguished from the swamp spruce

by its lustrous green leaves, by its early falling cones, and by the scales of the cones, which are scarcely ever notched. The red spruce is also used in making paper pulp and its sap furnishes the commercial spruce gum. It grows in a narrow belt from New Brunswick to Tennessee. Both these spruce trees are essentially northern plants, and in the Hudson Valley are more common near the mountains than southward.

Hemlock Spruce

TSUGA CANADENSIS

The hemlock, one of our slow-growing evergreens, reaches its greatest development in the northern part of the continent. It frequently forms exclusive forests under favorable conditions, but southward the trees become scattered and intermingled with other kinds. One of the most southerly groves is that within the grounds of the Botanical Garden where the tree has practically exclusive control of a tract of some 35 acres. It is common along the Palisades.

The tree is sometimes as high as 120 feet, with a stout trunk covered with a coarse roughly ridged bark. The branches stand out straight from the trunk when old or droop slightly at their tips. The arrangement of the twigs and leaves in a practically flat plane with the branch gives the tree a very characteristic and beautiful facies. Unlike the spruce the leaves of this hemlock are flat; they are bluish green on the under side and dark olive green on the upper. They are seldom more than $\frac{2}{3}$ inch long and rounded at the tip.

The cones mature the first season and shed their seeds during the winter; they are smaller than the cones of the pines, scarcely ever being more than $\frac{3}{4}$ inch long. They are usually found attached by a short stalk to the tips of the young branches.

The rough coarse lumber of the hemlock is used only for general construction purposes, and the tree is of economic importance almost solely on account of its bark which is an important agent in tanning leather.

Balsam Fir**ABIES BALSAMEA**

The balsam fir occurs but sparingly in the lower Hudson Valley, it being chiefly a northern tree and abundant in the Adirondacks. It forms, when isolated, a broad, symmetrical tree of cone-like shape scarcely exceeding 75 ft. in height. The trunk is covered with a smooth gray bark which has numerous resinous blisters spread throughout it. The resin exuded is the well-known Canada balsam of commerce. The branches are arranged in successive and sometimes widely separated whorls; in age they droop slightly at their ends. There are usually two kinds of leaves on the balsam fir, those on the cone-bearing branches and those found only on branches not cone-bearing. On the former they are about $\frac{1}{2}$ inch long and sharp-pointed, but on the sterile branches they are twice as long and usually rounded at the tip.

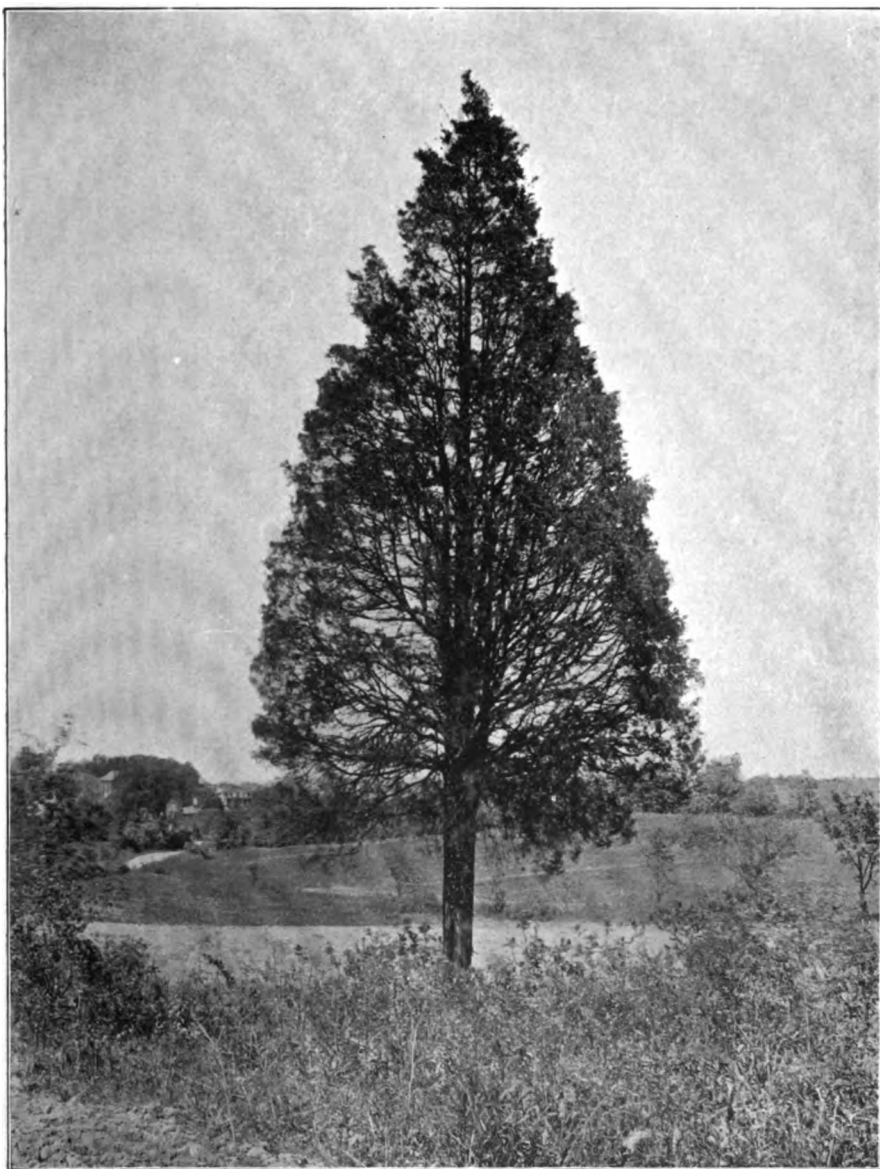
The cones, which stand erect on the branches, instead of drooping as they do in most of our evergreens, are from 2 to 4 inches long and composed of numerous roundish scales. The tree may often be found with only the naked stalk of the cone clinging to the branch; as the scales fall off, from the top downwards, thus releasing the seeds, while the stalk is still fast to the branch.

This evergreen, which in the Hudson Valley region prefers moist situations, has been lately used in making paper, but for general purposes its wood is too soft and coarse-grained.

Red Cedar**JUNIPERUS VIRGINIANA**

Because of its use in making moth-proof chests, and in the manufacture of lead-pencils, the red cedar or juniper, is one of the trees that comes more closely in touch with everyday affairs than almost any other Hudson Valley evergreen. It is common throughout the area in soil that will maintain scarcely any other trees, loves rocky and exposed places and will stand any amount of abuse from the elements.

The tree is tall, straight, and spire-like, with the lower branches somewhat spreading and the upper always erect. The trunk, which is covered with shedding, fibrous bark, is



RED CEDAR

New Baltimore, Greene County, N. Y.

fluted and often buttressed at the base. It has two kinds of leaves; those on the vigorous young shoots are awl-shaped, about $\frac{3}{4}$ in. long, and spreading from the twig. On the old branches the leaves are reduced to tiny scales which are pressed flat against the branches.

The flowers come out in early spring; those which subsequently form the fruits are never found on the same tree as the none-fruiting flowers. The fruits, which are cones, become pressed into a bluish berry-like structure, are $\frac{1}{4}$ inch in diameter, and almost smooth. (Plate 133.)

A single tree of the juniper (*Juniperus communis*) formerly grew near the south shore of Staten Island, where it may have been planted; on hillsides from Poughkeepsie northward we find the low juniper (*Juniperus nana*) as a round shrub scarcely over three feet high.

Arbor-Vitae

THUJA OCCIDENTALIS

The arbor-vitae, or tree of life, is popularly much confused with the white cedar. It may be readily distinguished by its cones which are oblong and composed of several loose scales, instead of being spherical and with more or less compressed scales. In other respects the resemblances are striking and the differences not very apparent.

In favorable situations it may reach a height of 60 ft. The trunk is continuous or sometimes divided, fluted and often conspicuously buttressed at the base. The horizontal branches frequently curve upwards at the tip. The small scale-like leaves are pressed closely to the frond-like, usually fan-shaped branchlets.

The flowers are usually reddish-brown, come out early in May and mature during the season. The cones are cinnamon-brown, ripen and shed their seeds in the autumn, but cling to the branches during the following winter.

Shingles, fence-posts and many other articles are made from the wood of the arbor-vitae, and the highly aromatic twigs and leaves are much prized. It grows in moist situations from New Brunswick to West Virginia and westward

to Minnesota. It is common in the Highlands of the Hudson. Owing to its popularity for decorative planting it has become the progenitor of at least fifty different horticultural varieties.

White Cedar

CHAMAECYPARIS THYOIDES

The white cedar, a tree from 70 to 80 ft. in height, is the swamp evergreen *par excellence*. It occurs from Maine to Florida and often forms exclusive forests; it grows in many parts of New Jersey. The horizontal branches which become more erect near the top give to the tree a spire-like conical shape. The branchlets are usually arranged in flat fan-like clusters and thus give a very characteristic appearance to the whole tree.

As in the red cedar there are two kinds of leaves; those on the young shoots are sharp-pointed, ridged on the back, and spreading from the stem. But the greater number of the leaves are pressed flat against the stem, are scarcely more than $\frac{1}{2}$ inch long, and more scale-like than leaf-like. They turn russet brown during the winter and may drop off the second year but many of them cling to the branches for several years.

Unlike the red cedar, this tree has cones that are truly cone-like and not so compressed as to resemble berries. The cones are scarcely more than $\frac{1}{4}$ inch in diameter, almost spherical, gray-green at first but subsequently bluish-purple or reddish-brown.

The wood of the white cedar is not nearly so fragrant as that of the red cedar, but it is used in ship-building and for a variety of construction purposes.

Swamp Poplar

POPULUS HETEROPHYLLA

The swamp poplar is common only in the southern part of the Hudson Valley. A few trees are known to grow in the Highlands but above this point it is rare. It grows plentifully along the Atlantic seaboard as far south as Georgia, and prefers moist or inundated situations.

In the north the tree is scarcely more than 50 ft. in height; in the south it is often twice this size. The trunk, which is covered with gray-brown bark, is mostly continuous, and bears towards the top the slender spreading branches. The leaf-blades, which are hoary when very young, subsequently become bright green and smooth. The leaf stalk is round, and consequently the leaves do not quiver in the breeze as they do in nearly all the other Hudson Valley poplars.

The flowers are of two kinds, those which subsequently produce fruit and those which do not. Almost always the two kinds are found on different trees, and they come out in April and May, usually before the leaves. The flower cluster, or catkin, is about 2 or 3 inches long. The fruits mature in May or June, and are filled with the seeds which are closely invested with silky, white or orange hairs.

The wood is of little economic importance, although under the name of black poplar it has been used in interior decorating and finishing.

Balsam Poplar

POPULUS BALSAMIFERA

The balsam poplar, more or less of a swamp tree, occurs in the extreme northerly part of the Hudson Valley. It is known to be plentiful northward into Newfoundland and Hudson Bay, but becomes scarcer southward. It is a tall tree reaching a height of 100 feet and a trunk diameter of 4 feet. under favorable conditions. The bark and young twigs are reddish-gray; and the buds are conspicuously resinous.

Balm of Gilead

POPULUS CANDICANS

The Balm of Gilead poplar, which may be distinguished by its bright green and smooth young leaves, with hairy stalks, is not known as a wild tree in the Hudson Valley. There are numerous specimens of this tree in the area but they are presumably derivatives of cultivated trees. The home of the Balm of Gilead is doubtful, but it has been stated to be Michigan and the country to the northwest.

Carolina Poplar**POPULUS DELTOIDES**

The Carolina poplar and the aspens may be readily distinguished from all the other native Hudson Valley poplars by their flattened leaf-stalks. To this flattening and consequent weakening may be traced the characteristic quivering of the leaves in the breeze.

The necklace poplar, as it is also called, is a tree rarely higher than 120 feet. The trunk is covered with smooth gray-green bark when young but in age the bark becomes rough and fissured. The branches are more or less spreading and stout. From the aspens of the Hudson Valley the Carolina poplar can be distinguished by its broadly triangular or delta-shaped leaf-blades, which are long-pointed at their tips. The flowers are so clustered as to form the familiar catkin, a peculiarity of all poplars. They bloom in April or May. Those catkins which subsequently bear the fruits elongate greatly after the blooming period.

The Carolina poplar grows best near water and it is found from Quebec to Florida and westward. It is common in the Hudson Valley.

The well-known Lombardy poplar (*Populus italica*) characterized by its rigidly erect branches, grows in the Hudson Valley only as an escape from cultivation. It is an Asiatic tree.

American Aspen**POPULUS TREMULOIDES**

The American aspen or quaking aspen is a tree occasionally reaching a height of 100 feet and a trunk diameter of 3 feet but in the Hudson Valley it is much smaller. The bark is pale yellow, becoming whitish. The spreading branches are remote, often contorted, and give the tree a round-topped outline.

The leaf-blades are dark green; oval in outline, with a rounded or wedge-shaped base and sharp-pointed tip. The teeth on the margin are small and have a tendency to be incurved. The leaf-stalk is flat and about as long as the leaf-blade. The gray-green flowers bloom in April and

May, followed by the fruits about a month later, when the stalk of the catkin becomes greatly elongated.

The American aspen is a rapid grower, and consequently the wood is soft and of little commercial importance, except as a source of paper pulp. Tannin is extracted from the bark. It grows best on moist gravelly soil or hillsides in the area, but it is found quite generally throughout the northern part of the continent. It is common along the upper Hudson, and extends southward to Staten Island.

Large-toothed Aspen **POPULUS GRANDIDENTATA**

The tree may be distinguished from the common aspen by its leaves which are broader than in the latter. The teeth on the margin of the leaf-blade are at least twice as large as those on the aspen, and they are not incurved. The buds of the aspen are usually quite smooth but in the large-toothed aspen they are uniformly clothed with dense hairs.

This tree prefers moist soil near swamps or streams, and it is confined to the eastern part of Canada and the United States. It is known to grow throughout the Hudson Valley.

Black Willow **SALIX NIGRA**

Most of the willows of the Hudson Valley are mere shrubs, but the black willow is a tree 30 to 40 feet high. There are a few more that very rarely become trees, although their characteristic habit is shrub-like. The bark of the black willow is dark brown or nearly black, but sometimes it is lighter brown tinged with orange. The branches are stout and spreading, giving the tree an open irregular head.

The leaves, which are alternately arranged on the reddish twigs, have lance-shaped blades from 3 to 6 inches long and are finely toothed on the margin. In age the leaf-blades may become scythe-shaped.

The flowers are clustered to form the well-known catkin. In the black willow they are found on short twigs, and bloom with the appearance of the leaves in early spring.

The wood of the black willow is of little use except for fuel. The tree is found usually at the edges of streams, and grows plentifully from New Brunswick to Georgia and westward.

The weeping willow (*Salix babylonica*) is common in the Hudson Valley. It is an Asiatic tree, however, and rarely establishes itself as a wild element in our flora.

The white willow (*Salix alba*) which is botanically related to the weeping willow, is a European tree that is as much at home in this country as our native willows. It may be distinguished from the black willow by its leaves, which are whitish beneath.

Butternut

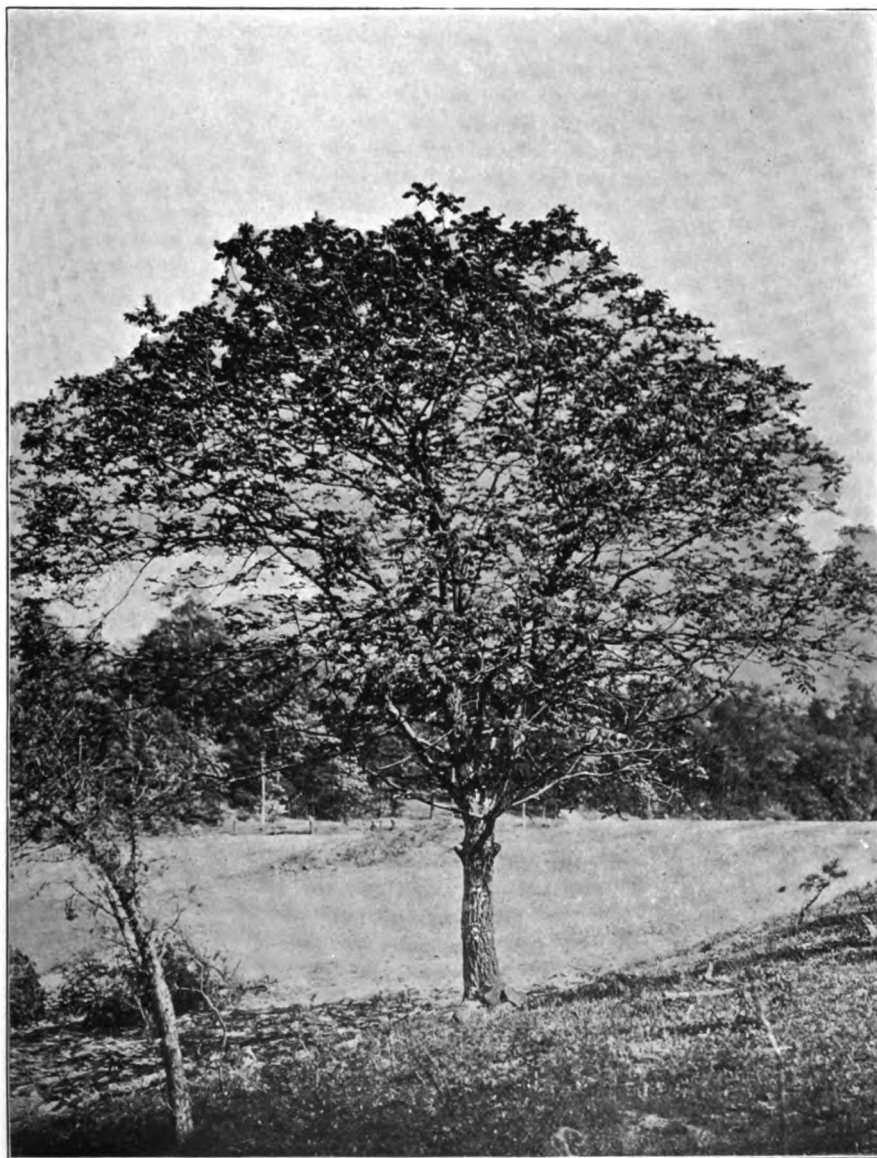
JUGLANS CINEREA

The butternut is a tree occasionally reaching a height of 80 feet in favorable situations. The trunk is scarcely ever continuous but divides about the middle and spreads out into several widely-spreading branches. The bark is usually brownish in color, coarse, and roughly fissured.

The leaves are compound, that is, they are composed of from 11 to 17 leaflets all attached to a common, hairy leaf-stalk. Each leaflet is more or less broadly lance-shaped and has an inequilateral base, which is attached directly to the common leaf-stalk, as the leaflets are themselves stalkless.

In the butternut the flowers bloom when the leaves are partly grown. They are in spike-like or catkin-like clusters. Those which are found in spike-like clusters subsequently develop into the fruits or "butternuts." The nut is oval-pointed, 4-ribbed and irregularly sculptured, and the sticky husk enclosing the nut is greenish and contains a violent yellow-green dye or stain.

The tree grows best in rich soil, either along streams or on low hillsides, and is found from Maine to Alabama and westward. It is common along the top of the Palisades and northward throughout the Hudson Valley, uncommon on Staten Island. It is of considerable economic importance for the wood is used in cabinet-making, the inner bark has



BUTTERNUT

New Baltimore, Greene County, N. Y.

medicinal properties and the outer bark yields a good sugar.
(Plate 134.)

Black Walnut

JUGLANS NIGRA

Closely related, botanically, to the butternut is the black walnut. It is taller than the former, frequently reaching a height of 130 feet. The bark is coarse and prominently ridged; and it is a darker brown than in the butternut. The leaflets on the black walnut are more numerous, frequently exceeding 20 to a single common leaf-stalk. They are unequal at the base, practically stalkless, and their margins are sharply small-toothed.

As in the butternut the flowers are arranged in catkins or in spike-like clusters. Those which subsequently develop the fruits are yellowish-green tinged with red. Unlike the butternut the fruit of the black walnut is never 4-angled or ribbed. It is almost perfectly round, the shell slightly sculptured, and covered with a thick husk.

The wood of the black walnut has become famous for its beautiful markings, the so-called figured trees being of almost fabulous value for the manufacture of furniture. Extensive forests of it once flourished throughout the eastern part of the United States, but it is now comparatively scarce. It grows in the vicinity of West Point and in the Highlands generally, southward to Staten Island, but it is less common than formerly.

Mocker-Nut Hickory

HICORIA ALBA

In the autumn the mocker-nut will be found retaining its foliage longer than most other hickories. It is a tall tree, often reaching a height of 90 feet, and a trunk diameter of 3 feet. The trunk is usually continuous in the forest, but branched and forked when the tree grows in the open. The irregularly fissured close bark is characteristic and serves to distinguish it from the shag-bark hickories, where the bark is regularly fissured and splits off in large plates.

In the mocker-nut, as in all hickories, the leaves are com-

pound, being composed of from 5 to 9 hairy leaflets, all attached to a common hairy leaf-stalk. The leaflets are oblong or lance-shaped, sharp-pointed at the tip, and wedge-shaped at the base. They are practically equilateral. In May or June the catkin-like flowers appear, followed in the fall by the well-known edible mocker-nut. The splitting of the husk of the mocker-nut serves to distinguish it from the pignut, in which the husk of the nut does not split.

The tree grows naturally from Maine to Florida, Nebraska and Texas, and it was at one time common on Manhattan Island. The hard, strong wood is indiscriminately classed with the other hickories by lumbermen.

Bitter-Nut

HICORIA CORDIFORMIS

Because of its inequilateral and curved leaflets, the bitter-nut may be easily distinguished from the preceding, with which, in other respects, it might be confused. It is a tall, quickly growing hickory, quite commonly distributed from Massachusetts to Georgia and westward; and is found in fair abundance along the Hudson Valley. The wood is largely used for fuel, and also for making implement handles and hooks. Its thin-shelled nut is very astringent.

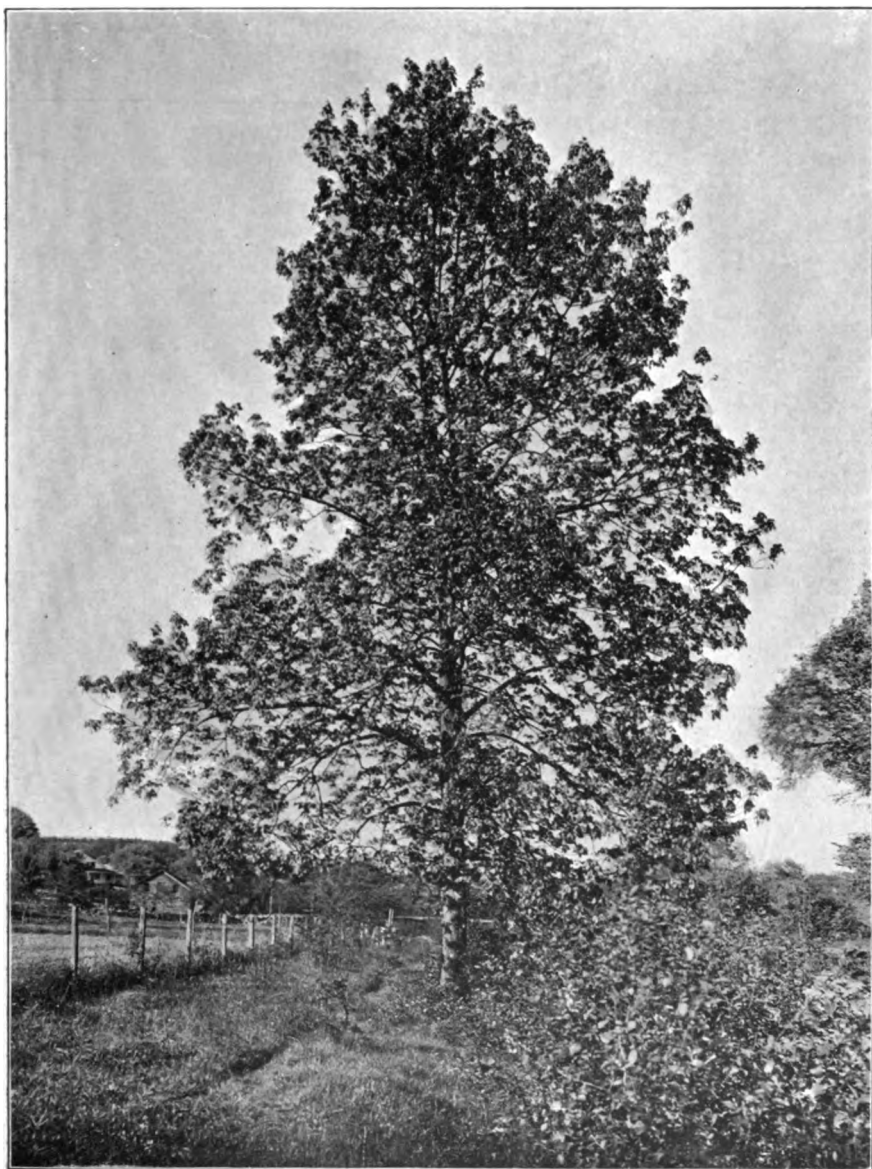
Shagbark Hickory

HICORIA OVATA

In the Hudson Valley the shagbark, or shellbark as it is sometimes called, is one of the two hickories in which the bark splits off in long plates. The whole trunk is covered with the pieces of bark clinging at their upper edges and free from the trunk at the lower, thus giving the trunk its strikingly shaggy appearance.

It rarely reaches a height of 100 feet, and usually does not have a trunk diameter of more than 2 to 3 feet.

There are usually only 5 leaflets in this kind of hickory, but sometimes 7 leaflets may be found. The leaflets are almost equilateral, and wedge-shaped at the base. The catkin-like flower clusters come out in May followed by the fruits in the fall. The nut, which is the common hickory



SHAGBARK HICKORY

New Baltimore, Greene County, N. Y.

nut of commerce, is slightly flattened at the top, 4-sided and closely invested with a husk which splits all the way down to the base.

The range of this valuable tree is from Maine to Georgia; in the Hudson Valley it is common. The hard tough wood is much prized in making tool handles. (Plate 135.)

Small-fruited Hickory

HICORIA MICROCARPA

There are two Hudson Valley hickories that have shaggy bark. The small-fruited hickory may at once be distinguished by the husk of its smaller nut which does not split all the way to the base, as it does in the common shagbark hickory. The splitting plates of the bark are smaller, and consequently the trunk is not so distinctly shaggy.

The small-fruited hickory, which is a large tree, often reaching a height of 80 feet, grows commonly in the same situations as, and often with, the shag-bark hickory; it is known to occur only from New York to North Carolina and westward to Missouri. It is comparatively common on Staten Island but scarcer northward. (Plate 136.)

Pignut Hickory

HICORIA GLABRA

The pignut prefers drier ground than most of the other hickories. It is often as much as 100 feet in height and with a trunk diameter of 3 to 4 feet. The bark is close, sometimes shallowly fissured, and is usually of a grayish color.

The compound leaf is composed of 3 to 7 leaflets; very rarely 9 leaflets will be found. Being practically without individual stalks, the leaflets are attached by their bases to the common leaf-stalk of the leaf. The leaflets are smooth above, and smooth below except at the forking of the principal veins where a tuft of hairs may often be found. The tree flowers in May, and the fruits develop about October. The nut, which is the common, and usually bitter, pignut of the markets, is almost spherical, sometimes slightly compressed and is closely invested by a husk which splits very tardily, if at all.

From New York to Florida and westward is the natural home of the pignut and it is common along the Hudson Valley.

American Hornbeam

CARPINUS CAROLINIANA

Of all the native trees of the Hudson Valley the wood of the hornbeam is undoubtedly the hardest and least easily worked. The tree is never more than 30 to 40 feet in height and the trunk is covered by a close-fitting, smooth, bluish-gray bark. The tough, spreading branches, together with the trunk, are often fluted and have a characteristic sinewy appearance.

The oval or oblong, sharp-pointed leaf-blades are dull green in color, from 2 to 5 inches long, and coarsely toothed. On the upper side the veins are deeply impressed, thus making the leaf-blade distinctly roughened. The leaf-stalk is hairy and slender, and scarcely more than $\frac{1}{2}$ inch long.

There are two kinds of flowers on the hornbeam, those which subsequently develop into the fruits and those which do not. Both kinds are arranged in catkins, and bloom before the leaves expand, usually in April. The fruit is a small nut, scarcely more than $\frac{1}{8}$ inch in diameter, which is enveloped in a flat 3-lobed miniature leaf. Sometimes one or both of the lobes of this small leafy envelope may be wanting.

In moist bottom lands and often associated with the red maple, the hornbeam is in its natural element, although it is sometimes found in drier situations. The tree grows freely from Maine to Florida and westward, and is very common in the Hudson Valley.

Hop Hornbeam

OSTRYA VIRGINIANA

Although the wood of the hop hornbeam is almost as hard as the American hornbeam it is more easily worked, and is used for making mallets, handles of tools and other implements. Unlike the American hornbeam the bark of this tree is rough, and distinctly, but closely, fissured or roughened.



SMALL FRUITED HICKORY
New Baltimore, Greene County, N. Y.

The tree rarely attains a height of 60 feet. The oblong-pointed leaf-blades are coarsely toothed on the margin, and furnished with conspicuous tufts of hair on the under side at the juncture of the principal veins. A small tuft of hair tips the marginal teeth, when the leaves are very young.

Before the tree becomes covered with foliage, the catkin-like clusters of flowers bloom. The fruits follow, usually maturing during the summer. The fruit consists of a small nutlet completely enclosed by a bladder-like structure, and in this it differs from the American hornbeam in which the nutlet is surrounded by a small leaf-like wing.

This tree prefers dry gravelly slopes and ridges and is found growing wild from Cape Breton to Florida and westward. It is common in the upper Hudson region particularly near the country bordering the Catskills, becoming scarcer southward.

Gray Birch

BETULA POPULIFOLIA

The brilliant white bark of the gray birch and paper birch serves at once to distinguish them from all the other Hudson Valley birches. In the gray birch, or white birch as it is often called, there are usually 2 to 5 trunks in a cluster. The tree rarely exceeds 40 feet in height.

The poplar-like leaves of the gray birch serve to distinguish it from the other white-barked birch. In the former the leaf-blades are delta-shaped and the tip of the blade runs out into a fine point. They are usually 2 to 3½ inches long, somewhat heart-shaped at the base, and the margins are coarsely toothed; these large teeth are themselves more finely toothed.

About the time the leaves unfold the catkin-clustered flowers bloom, followed subsequently, in the fertile flowers, by the fruits. These are a collection of scales, each scale enclosing a small winged seed.

Many common articles are made from the gray birch and it is extensively used in making charcoal. The tree occurs freely from Quebec to Pennsylvania and Ontario. It is common along the Hudson.

Paper Birch**BETULA PAPYRIFERA**

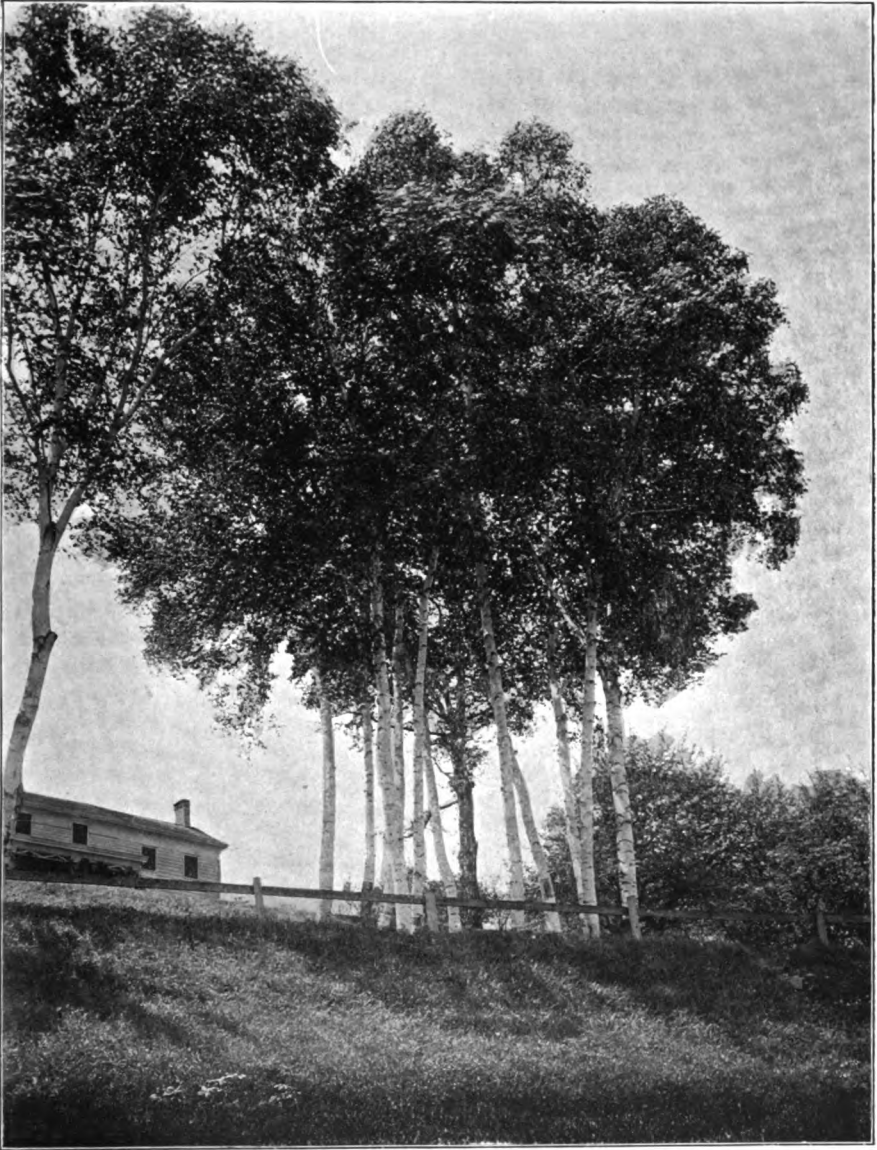
The familiar birch-bark canoe of the Indian was made from the impervious bark of this paper- or canoe-birch, as it is often called. As in the gray birch the bark is white, but often the lower part of the trunk of the paper birch becomes darker colored, particularly when the tree is old. In the Hudson Valley the tree is seldom over 80 feet in height.

The oval-shaped leaf-blades with the margin irregularly but not coarsely toothed, serve to distinguish this tree from the preceding. From 2-4 inches is the usual length of the leaf-blade, and the top sometimes runs out into a fine point. In April and May the flowers open, either with or before the leaves. The sterile, non-fruiting catkins are usually clustered in twos or threes, but the fruit producing catkins are mostly solitary. The fruits are somewhat similar to those of the gray birch.

From Labrador to Alaska, southward to New Jersey and northern Montana is the natural range of the paper birch. It occurs sparingly southward and is known to grow along the Hudson Valley near the Catskills. (Plate 137.)

River Birch**BETULA NIGRA**

From all the other birches of the Hudson Valley that have dark colored bark the river birch may be distinguished by its lack of an aromatic sap. The other dusky-barked birches all have the characteristic odor of birch-beer and other derivatives of their wintergreen-flavored sap. Under favorable conditions the river birch attains a height of 80 or 90 feet, and if growing in the open it develops into a freely branching, oblong-outlined tree. The reddish-brown bark is thick and irregularly segregated into small scales. The leaf-blades are sharp-pointed at the tip, oval in outline, and either wedge-shaped or blunt at the base. They are dark green and shining above and woolly on the veins beneath. In April and May the catkin-like flowers bloom, followed in June by the fruits.



PAPER BIRCH

New Baltimore, Greene County, N. Y.

Various kinds of woodenware are manufactured from the wood of the river birch, and it is used for fuel. As its name indicates it prefers moist places along river banks, and it grows wild from Massachusetts to Georgia and westward. In the Hudson Valley it is known to grow near the Catskills, and southward to Staten Island.

Cherry Birch

BETULA LENTA

Birch-beer, betul-oil and a flavoring extract, all of which are derived from the aromatic sap of the cherry birch, make it the best known of all the native birches. Under favorable conditions the tree often attains a height of 70 feet, and it is more or less symmetrically ovoid in outline. The nearly black bark of the tree has suggested the name of black birch, and it is known by this name in many places. The name sweet birch is derived from its aromatic sap. The oval-oblong leaf-blades are from 2½ to 5 inches long, sharp-pointed at the tip, and more or less heart-shaped at the base. The margins are sharply but not coarsely toothed.

Sometime before the leaves appear the tree is covered with its drooping and erect catkins of flowers. The pendulous non-fruiting kind are golden-brown, when mature, and the blending of these golden flowers with the reddish twigs produces beautiful color harmonies in the early spring. The erect, fertile catkins produce the fruit about two months after the flowers reach maturity. As in all the birches the seeds are prominently winged.

The cherry birch is confined to the region from New Brunswick to Georgia and Iowa. It is exceedingly common throughout the Hudson Valley.

Yellow Birch

BETULA LUTEA

Although it has many characteristics in common with the cherry birch, the yellow birch can generally be identified by its yellowish or reddish-yellow bark. It is a tree sometimes as high as 90 feet and in the open it develops a broad rounded top. The bark of the branches and branchlets and

sometimes of the trunk peels very readily and the curled up edges of these peelings give a very characteristic appearance to the whole tree.

Unlike the cherry birch, the oval-shaped leaves of this kind, are coarsely toothed and the larger teeth are themselves more finely toothed. It can be distinguished from the river birch by its stalkless catkins of flowers. In the latter sort the catkins are always stalked. The sterile catkins are usually found in clusters of from 2 to 4. The fertile, or fruit-producing catkins are always solitary and usually fastened to the twig at its juncture with a leaf-stalk.

Agricultural implements, woodenware and furniture are all made from the wood of this tree. It grows wild from Newfoundland to North Carolina and westward, and is found along the upper Hudson.

Southern Yellow Birch

BETULA ALLEGHANENSIS

This is related to both the cherry and the yellow birch. It is smaller than the latter and about the same size as the former. The bark on the trunk is sometimes peeled and sometimes merely fissured. It is usually of a reddish-yellow color.

The fertile catkins of this birch are scarcely more than $\frac{1}{2}$ inch long and more or less oval or globose-oval in outline. In the common yellow birch they are elliptic in outline and longer than those of this tree.

Lumbermen use the wood of this birch indiscriminately with that of the yellow birch and for like purposes. It grows in woodlands from Massachusetts to southern New York and westward. Trees of this birch are known to grow in the Highlands of the Hudson, and, when better known, it will doubtless be found elsewhere.

New York Alder

ALNUS NOVEBORACENSIS

Nearly all the alders are typically shrubs, but specimens of this species are sometimes distinctly tree-like. So far as known the tree grows only on Long Island and Staten Island.

The tree is some 25 feet high, having a trunk covered with a smooth brownish bark, and young brownish hairy twigs. The thin leaves are more or less oval in outline from $3\frac{1}{2}$ to 5 inches long, and acute at both ends, or sometimes they may be bluntish at the tip. The flowering catkins are of two kinds, sterile and fertile. The latter produce the fruits which cling to the branches throughout the following winter. The nut is winged.

Our native alders are of little economic importance.

American Beech

FAGUS GRANDIFOLIA

Its smooth, bluish-gray bark, silky-golden buds and its lustrous green leaves, which turn bright yellow in autumn, all make the beech one of the most distinctive and beautiful trees of the American continent.

It sometimes surpasses 100 feet in height and the trunk often exhibits a tendency to be fluted. The leaf-blades are oblong or oval-oblong, rough and with numerous veins, some of which terminate in the coarse marginal teeth. The flowers appear after the leaves unfold. Those which do not produce fruit are arranged in catkins and the fertile flowers are found usually two together on a short stalk. They have practically no petals. The fruit is a small nut completely surrounded by a prickly shell-like husk which splits and thus releases the seed.

The wood of the beech is much used for a variety of purposes and particularly in the manufacture of creosote. The kernel of the nut is sold in the Canadian market. The tree is confined to the eastern half of the continent and is common in the Hudson Valley.

The copper beech, a dark-leaved form of the European beech (*Fagus sylvatica*), is much planted for ornament, but it is not known to have established itself as a wild element in our native flora.

American Chestnut**CASTANEA DENTATA**

Most of the chestnut trees in the Hudson Valley are affected by a fungus disease that has failed to yield to the ordinary methods of fighting tree-diseases. If the disease keeps up its present activity, a few years hence will see the practical extinction of one of the largest and most useful trees of North America. In the open it often forms a round-topped tree more than 90 feet across. The trunk is closely invested with a coarse, deeply fissured bark, and is often as much as 10 feet in diameter. The lance-shaped or elliptic leaf-blades are sometimes as long as 8 inches and are furnished with coarse, sharp-pointed marginal teeth. Usually about the Fourth of July the tree is covered with its golden-brown catkins of flowers, making the tree a conspicuous feature of the landscape. The upper part of most of these catkins is sterile but the lower part of them subsequently develop into the well-known chestnut.

The chestnut is known to grow only east of the Mississippi and from central New York to Georgia. It is, or was, common throughout the Hudson Valley. The wood is of great economic importance and the bark is extensively used in the tanning of leather. (Plate 138.)

Red Oak**QUERCUS RUBRA**

Although the wood of the red oak is inferior to that of the white, it is largely used for interior decorating. The tree sometimes reaches a height of 130 feet with a trunk diameter of 5 feet. The stout spreading branches give the tree a broad round-topped outline. At first the young twigs are greenish becoming successively reddish and brown. The thin leaf-blades are green both sides, lobed about halfway to the middle of the blade, and the divisions are always tipped with a strong bristle. As in all oaks the flowers are of two kinds, sterile and fertile. In the red oak the sterile are arranged in catkin-like clusters, and the fertile are usually solitary or in twos. The latter subsequently develop into the well-known acorn. In this oak the acorn is oval but with



AMERICAN CHESTNUT
Vassar College Campus, Poughkeepsie, N. Y.

a flat base, and usually $\frac{3}{4}$ to $1\frac{1}{4}$ inches long. The base is surrounded by a flat saucer-shaped cup, which is hairy on the inside.

The red oak is found growing wild from New Brunswick to Georgia and westward. It is common throughout the Hudson Valley.

Swamp Oak

QUERCUS PALUSTRIS

The coarse, rough wood of this oak make it undesirable for the fine work for which the wood of the red oak is used, and consequently it is used mostly for making shingles and clap-boards, and in rough construction work. On the whole it is a smaller tree, and has a more restricted distribution, although it is exceedingly common throughout the Hudson Valley.

The reddish, close bark is often scaly and split into small plates which are flattened against the trunk. The greenish young twigs turn reddish-brown when old. The blade of the leaf is oblong in general outline, but the bristle-tipped lobes divide it almost to the center. At its base the leaf-blade is narrowly or sometimes broadly wedge-shaped. The drooping lower branches, especially in older trees, are exceedingly characteristic.

The widely cultivated swamp oak has acorns decidedly different from those of the red oak. They are short-stalked, solitary or in small clusters, and nearly hemispherical; scarcely ever more than $\frac{1}{2}$ inch in diameter. The cup encloses only about one quarter of the acorn, and it is hairy on the inside. (Plate 139.)

Black Oak

QUERCUS VELUTINA

A conspicuous characteristic of the black oak serves as a ready means of distinguishing it from all the other bristle-tipped sorts. The inner bark, easily disclosed by cutting in about an inch, is of a bright orange color. It is the titular head of all the bristle-tipped kinds, as they are often collectively known as the black oaks, and in this species the

name is well taken for the bark is very dark in color, almost black.

The leaf-blade is ovate in general outline, but its lobes divide the blade almost halfway to the middle. From its wedge-shaped base to the bristle-tipped apex the blade is sometimes as long as 10 inches, and the veins and sometimes the whole surface of the leaf-blade is hairy. When the leaves are about half unfolded the flowers appear, followed subsequently by the acorns. These are solitary or in pairs, often striped, or covered with fine reddish hairs. The cup encloses almost half the nearly globose nut.

For ordinary construction purposes the wood of the black oak is of very little value. The bark, however, is used as a yellow dye and in tanning leather. The tree grows freely from Maine to Florida and westward, and is common throughout the Hudson Valley. (Plate 140.)

Gray Oak

QUERCUS BOREALIS

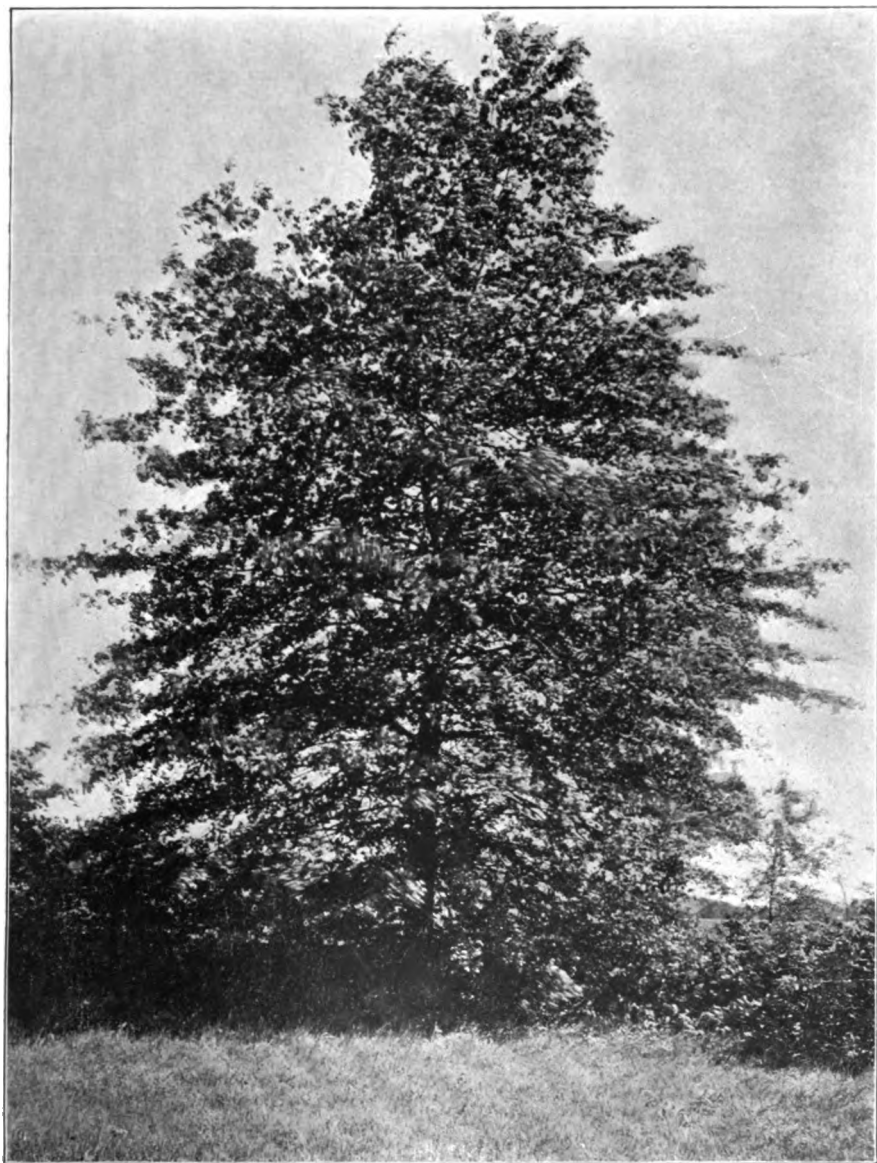
This little-known oak occurs sparingly in the northern part of the Hudson Valley, and also in the mountains as far south as the Carolinas. It has some characteristics in common with the red and scarlet oaks; its acorns have flat saucer-shaped cups, similar to those of the red oak. One characteristic that may distinguish it from these trees is the fact that its leaves usually hang on longer in the autumn than do the leaves of the red and scarlet kinds. The tree is difficult to identify. The gray oak is alleged to grow further north than any other oak.

Scarlet Oak

QUERCUS COCCINEA

This tree takes its name from the brilliant scarlet coloring of its young leaves and the magnificent coloring of its autumnal foliage. When mature the leaves become bright green and shining. The tree often attains a height of 70 feet and a trunk diameter of 3 feet.

The broadly oval leaf-blades are divided almost to the middle by their lobes which are from 5 to 9 in number and



SWAMP OAK

New Baltimore, Greene County, N. Y.

always bristle-tipped. From the blunt base to the acute, bristle-tipped apex the blade is usually from 5 to 8 inches long. On the under side of the blade they are paler than on the upper, and often furnished with tufts of rusty-colored hairs at the juncture of the more prominent veins. The flowers appear when the leaves are half unfolded, followed in the autumn of the second season by the acorns. These are practically stalkless, solitary or two in a cluster. The acorn is ovoid, from $\frac{1}{2}$ to $\frac{3}{4}$ of an inch in length, and enclosed for $\frac{1}{3}$ or $\frac{1}{2}$ of its lower part by the cup.

The scarlet oak grows best in dry sandy situations from northern New York to Georgia and westward to Iowa. In the Hudson Valley it is a fairly common tree. Its wood, which resembles that of the red oak, is used for much the same purposes, but is not so valuable.

Black-Jack Oak

QUERCUS MARILANDICA

From all the bristle-tipped oaks that have lobed leaves the black-jack oak can be easily distinguished by its peculiar leaf-blades. They are much broader above the middle than below it. In the Hudson Valley it is found only on Staten Island and adjacent Long Island and New Jersey. Further south it reaches a height of 40 feet.

The leaf-blades which are narrowed at the base, and conspicuously widened upward, are from 3 to 6 inches long. There are mostly three blunt, but bristle-tipped lobes, at the apex of the blade, which on the under side is usually covered with short brownish hairs. In April or May the flowers appear followed in the autumn of the second year by the acorns. These are hemispherical and from $\frac{1}{2}$ to $\frac{3}{4}$ inch long, and enclosed for their lower half by the thin cup.

The wood of the black-jack oak is little used except for fuel and in the manufacture of charcoal. The tree has much value for decorative planting, but is of very slow growth.

Willow Oak**QUERCUS PHELLOS**

The popular name willow oak is truly descriptive of this tree. It has the leaves of a willow and it is the only Hudson Valley bristle-tipped oak that is entirely without lobing in the leaves. The tree prefers rich bottom lands and its northern limit of growth is in the southern extremity of the Hudson Valley. On Staten Island there are some big trees of the willow oak.

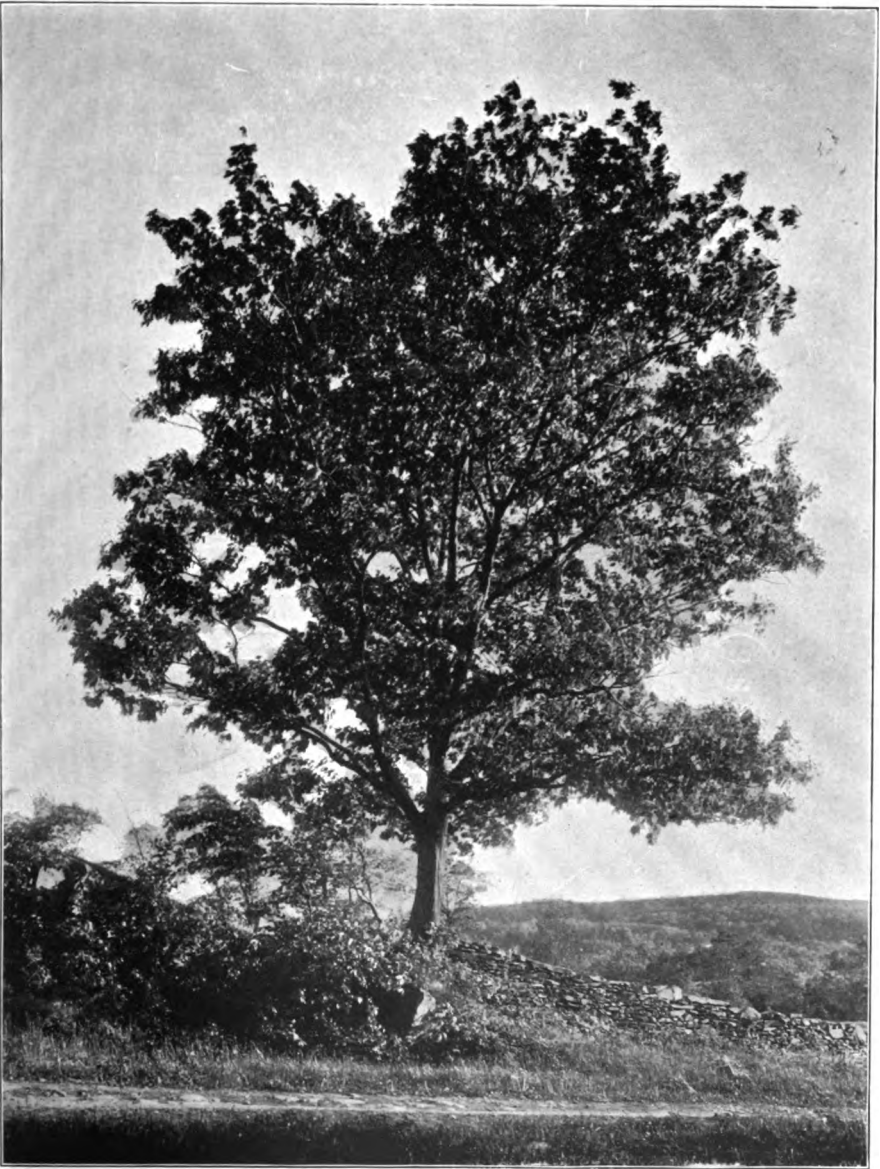
The lance-shaped leaves closely resemble a typical willow leaf, and are from 2 to 5 inches from the sharp-pointed base to the bristle-tipped apex. In texture the leaf-blade is thick and leathery. Soon after the leaves unfold the flowers appear, followed in the second season by the acorns. These are mostly solitary, almost round and not more than $\frac{1}{2}$ inch in diameter. Only the base of the acorn is enclosed by the reddish-brown cup, which is hairy on the inside.

The wood is used sparingly in the manufacture of wagons, but the tree is valuable for ornamental planting from Philadelphia southward.

Yellow Oak**QUERCUS MUHLENBERGII**

The chestnut oak is also one of the names used for this tree and it is well chosen for the leaf is something like the chestnut leaf. In the most favorable situation the tree may be as high as 160 feet, but in the Hudson Valley it is never so tall as this. The bark is light brown and the twigs, at first green, become dark brown in age. The oblong, lance-shaped leaf-blades are from 4 to 8 inches long, sharp-pointed at both ends, and with several small marginal lobes or roundish teeth. The lobes and tip of the blade are not bristle-tipped. In the spring, appearing with the leaves, the flowers come out, followed in the succeeding autumn by the acorns. These are practically stalkless, solitary or two in a cluster. The nut is ovoid, $\frac{1}{2}$ to $\frac{3}{4}$ inch long and its lower half enclosed by the woolly cup.

The wood of the yellow oak is very hard, not easily seasoned, and is mostly used for rough construction work,



BLACK OAK
New Baltimore, Greene County, N. Y.



such as railroad ties and fencing. The tree grows naturally from New York to Alabama and westward. It is common in the Hudson Valley particularly in the Highlands.

Alexander's Oak

QUERCUS ALEXANDERI

This oak is rare in the Hudson Valley. Trees have been observed at West Point and Hyde Park, but it is doubtful if it is found south of these points. It is otherwise known from Vermont to Michigan and Iowa. From the yellow oak, to which it is botanically allied, it can be distinguished by its leaf-blades which are broadest above the middle, and have shallow lobes or teeth. The cup of its acorn encloses only the base of the nut, in contrast to the yellow oak where the nut is half enveloped by the cup; its bark is somewhat flaky.

Rock Chestnut Oak

QUERCUS PRINUS

As in the two preceding kinds this oak has leaves that strongly resemble the leaf of a chestnut. The trunk often becomes forked a short distance above the ground and the tree is often as high as 70 feet. The exceedingly coarse deeply-fissured bark is used in tanning leather. The oblong or lance-shaped leaves are from 6 to 8 inches from the narrow base to the equally narrowed apex. Neither the tip of the blade nor the numerous, rounded marginal teeth are bristle-tipped. When the leaves are about one third unfolded the flowers appear, followed subsequently by the acorns. From the other chestnut oaks this sort differs in having its acorns at the end of a stout stalk. The nut is ovoid or oblong and from 1-1½ inches long; its lower half is enclosed by the hairy cup.

The hard, close-grained wood is hard to cure and is used mostly for railroad ties, fencing and so forth. The tree is confined to a wide belt ranging from central New York to Georgia, and as its name implies prefers rocky situations; it is common in the Hudson Valley.

Swamp White Oak**QUERCUS BICOLOR**

This oak often attains a height of 90 feet in the forest but isolated specimens are usually lower and broader. The tortuous branches and trunk are invested by a red-brown, scaly bark, which on the trunk is deeply furrowed with confluent fissures.

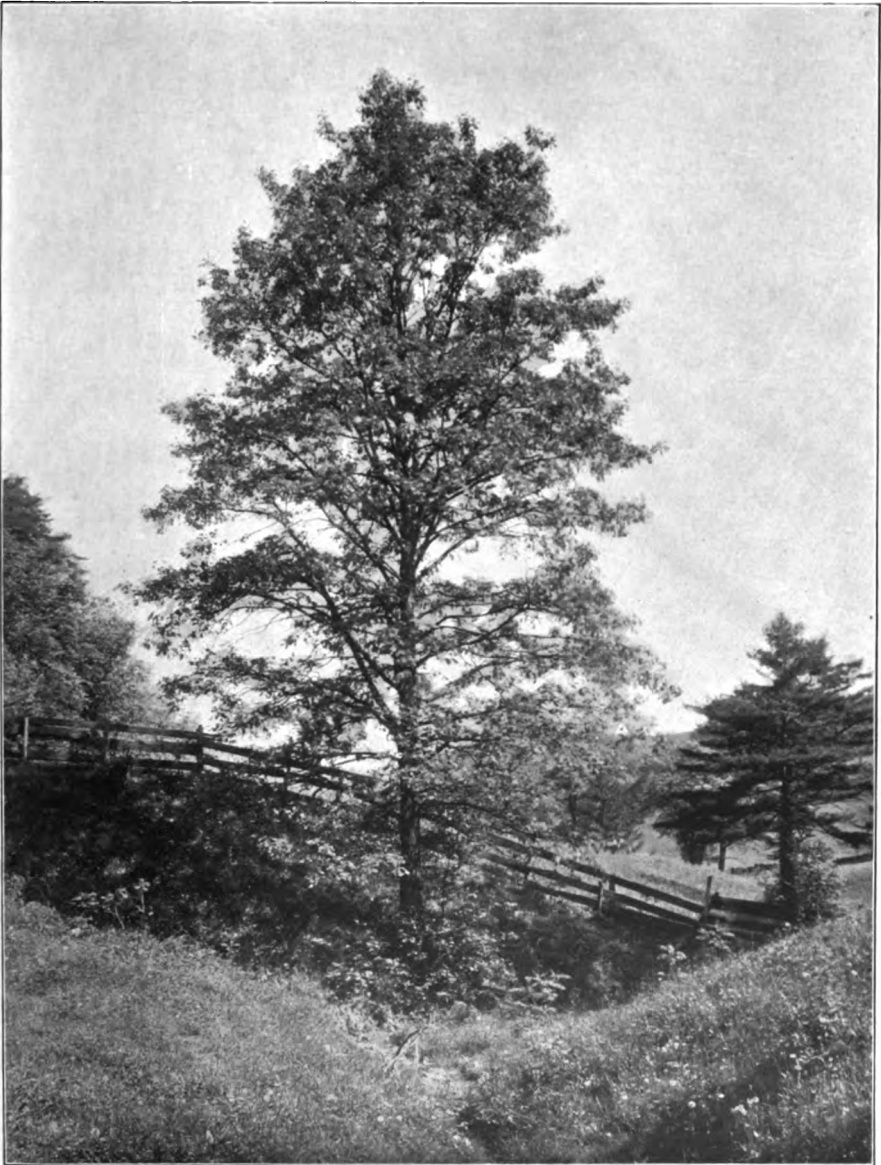
The leaf-blades are lobed, but not deeply so, and in general outline the blade is broadest above the middle. Neither the lobes nor the apex of the blade are bristle-tipped. The leaf-blades are green above and more or less woolly and pale beneath. In April or May the flowers appear followed in the succeeding autumn by the fruit. The nut is slender-stalked, ovoid, about $\frac{3}{4}$ of an inch long and its lower half is immersed in the woolly cup.

The tree prefers moist places and is found from Quebec to Georgia and westward. Its wood is sold indiscriminately by lumbermen for the same purpose as white oak and it is exceedingly valuable.

Bur Oak**QUERCUS MACROCARPA**

In some situations this tree attains a height of 170 feet, but it never becomes as tall as this in the Hudson Valley where it is local and found only in the northern part. The brown or reddish bark is deeply fissured and split into irregular plates.

The upper half of the leaf-blade is broader than the lower half and divided almost to the middle by the lobes. The terminal lobes are longer than the lateral ones, and are coarsely blunt-toothed. Neither the apex, lobes nor teeth are bristle-tipped. The upper surface of the leaf-blade is smooth and green, the lower grayish and hairy. According to the latitude the flowers appear from March to June, in the Hudson Valley early in May. The stalkless fruits mature the same autumn, singly or in clusters of 2 or 3. The nut is almost round or sometimes oblong, and varies from $\frac{1}{2}$ to 2 inches long according to latitude. It is about half immersed in a cup which is conspicuously fringed at the



BUR OAK

New Baltimore, Greene County, N. Y.

upper edge. This fringe or burr on the cup gives the tree its name and serves to distinguish it from all the other oaks in the Hudson Valley.

Commercially the tree is very important, its wood being used for a variety of purposes. It occurs from New Brunswick along the mountains to Tennessee and westward, where it reaches its greatest development. (Plate 141.)

Post Oak

QUERCUS STELLATA

The post oak reaches its northernmost limit on Staten Island and the adjacent territory in New Jersey and Long Island. It does not attain its full dimensions in this region and never reaches 100 feet in height, a stature credited to it in southern Ohio. The flat-ridged bark is coarse, and grayish-brown in color.

A peculiarity of its foliage furnishes the reason for the name *stellata*, meaning star or star-like. The leaves are closely clustered, which, with their deep lobing, give the leaf clusters enough resemblance to a star to make the name appropriate. The divisions of the leaf-blade extend almost to the middle, and a striking feature of the lobing is that the middle lobe is longer than those above and below it. The acorn which is often as long as 1 inch is ovoid in outline, and the nut is usually half enclosed by the woolly cup.

The wood of the post oak is resistant to rotting agencies when under ground and is much used for work of this nature, and in cooperage.

White Oak

QUERCUS ALBA

From a commercial point of view this is probably the most valuable tree of the American continent. Its wide spreading branches and majestic trunk very actively suggest the idea of great architectural strength. The tree is frequently as high as 150 feet, but in the open usually shorter than this and correspondingly more widely spreading. It takes its name from the shallowly fissured light gray or whitish bark.

The deeply lobed leaf-blades are not bristle-tipped, and as

in the post oak there is a tendency for the middle lobe to be longer than the lobes above and below it. The base of the blade is sharply wedge-shaped. When the leaves are about one third unfolded the flowers appear, followed in the same autumn by the usually stalkless acorns. The nut is ovoid or oblong and about $\frac{3}{4}$ of an inch long, covered only for its lower fourth by the woolly cup.

The tree is very common within its area of distribution, which extends from Quebec to Florida and westward. It is well represented in the Hudson Valley by many magnificent specimens.

American Elm

ULMUS AMERICANA

The American or white elm is the largest and most widely dispersed of our native elms. The well-known habit of branching gives the tree a distinctive and beautiful outline, which is particularly attractive in winter. The branches are without corky ridges, which distinguishes another native elm, and are usually reddish-brown. The leaf-blades are smoothish above, oval in outline, abruptly pointed at the apex, and from 2 to 5 inches long. The base of the blade is usually inequilateral, and the leaf margins are conspicuously toothed.

Some time before the leaves unfold the flowers appear. As the word is usually understood they are without petals. In early summer the little clusters of fruits mature. Individual fruits consist of a seed with a wing surrounding and closely investing it. In the American elm the seed-wing is smooth on its face but conspicuously hairy around its edges.

In New England the elm has been planted for decorative purposes more extensively than any other tree. It grows wild from Quebec to Florida and westward, and is very common in the Hudson Valley. Besides its decorative value the American elm is prized for its valuable wood which is much used for making ships, floors, and so forth. (Plate 142.)

Slippery Elm

ULMUS FULVA

The highly mucilaginous inner bark of this tree has given it its common name of slippery elm. It is not so tall as



AMERICAN ELM
New Baltimore, Greene County, N. Y.

the American elm, and more local and rare in its distribution. The outer bark is darker and more deeply fissured.

In general outline the leaves much resemble those of the American elm but they are larger, more conspicuously toothed on the margins, and very prominently roughened on the upper surface. Its flowers are very similar to those of the better known tree but the fruits have one characteristic that is strikingly different from the preceding kind. The wing of the seed is quite smooth on its edges, and on the face it is hairy only immediately over the seed.

The slippery elm is found from Maine to Georgia and westward. It is fairly common along the Hudson, especially northward. The slippery elm lozenge is made from the precipitation of the mucilage which the tree secretes so extensively in its inner bark. The wood is also valuable for construction purposes.

Cork Elm

ULMUS THOMASI

This is the least known and most locally distributed native elm. It attains a height of 80 or 90 feet in favorable situations. The trunk is stout, and clothed by the thick fissured bark. The lower branches are often conspicuously drooping, and the young branches have prominent corky wings along the sides.

The oval-outlined leaf-blades are sharp-pointed at the tip, and rounded at the nearly equilateral base. The marginal teeth are prominent, incurved and the large teeth are themselves toothed. Before the leaves unfold the flowers appear, followed in early summer by the fruits. These differ from both the American and slippery elm in having the seed-wing hairy on its margin and also its entire surface.

Railroad ties, bridges, and agricultural implements are all made from the wood of this tree. It grows wild from Quebec and Ontario to northern New York, Tennessee and westward. In the Hudson Valley it is rare, and only definitely known in the northern part.

The English elm (*Ulmus campestris*) is widely planted

for ornament but is not known to have established itself as a wild element in our native flora.

Hackberry

CELTIS OCCIDENTALIS

In the Hudson Valley this is not a common tree and frequently escapes notice as there it never attains its full dimensions; but further south and west it becomes 60 feet in height. The rough, often corky-winged bark is gray-brown and becomes scaly when old. The smooth leaf-blades are 2 to 4 inches long, oval in outline, with a fine-pointed tip, and a rounded or heart-shaped, inequilateral base. Sometimes there are marginal teeth and sometimes the margins are quite smooth. Just as the leaves unfold the small greenish flowers come out, usually at the base of a leaf-stalk. They subsequently develop into a fruit which is berry-like, but has a hard bony stone. The outside skin of the fruit may be red, or orange, but more frequently black.

In the Hudson Valley the hackberry is of little commercial importance as its scarcity precludes regular supply. Geographically the tree has a wide range, extending from the Atlantic coast to the Great Plains.

Rough-leaved Hackberry

CELTIS CRASSIFOLIA

The rough-leaved hackberry is more rare than the common kind. Very few trees are known to occur in the Hudson Valley, but one good specimen occurs along the east bank of the river at the southern end of the Highlands. The tree may be distinguished from the common hackberry by its rough leaf-surface. In other respects it is closely related to the preceding species.

Red Mulberry

MORUS RUBRA

This is the only native mulberry that grows in the Hudson Valley. The Old World white mulberry, so much grown for the silkworm industry, occurs only as an occasional escape from cultivation. The native species is a tree from 60 to 80 feet in height, with a trunk diameter of 3 to 4 feet. The long-fissured bark often splits off in plates.

For variety of leaf-shapes it is doubtful if many known trees equal the red mulberry. When young the leaves are often deeply lobed, sometimes one-sidedly so, and sometimes they are without lobes. The mature leaf-blade is usually oval in outline, with a square or heart-shaped base and an acute-tipped apex. The margins are prominently toothed. The catkin-clustered flowers come out with the leaves, the fertile clusters followed in early summer by the juicy fruits. These are really a conglomeration of many fruit-units all going to form what is popularly termed the fruit.

The wood has some commercial value, and the tree deserves wide planting for its decorative value. It is found from central New York to the Gulf of Mexico and westward. In the Hudson Valley it is local and rare in the southerly portion, and probably wanting northward.

Sweet Bay

MAGNOLIA VIRGINIANA

In the southern states this often becomes a tree exceeding 50 feet in height, but in the Hudson Valley, it is not known to be more than a shrub or a shrub-like tree. On Staten Island and in adjacent New Jersey it grows in swamps.

The plant may be identified by its leathery lance-shaped or oval leaf-blades which are conspicuously white, silky-hairy, on the under side. Beautiful white, fragrant flowers appear in June and the conspicuous red fruits later in the summer.

Tulip Tree

LIRIODENDRON TULIPIFERA

One of the most attractive trees for decorative planting in the eastern states is the tulip tree. Its giant columnar trunk is often free of branches for 50 or 60 feet but it may have branches lower than this in some specimens. The tree frequently exceeds 150 feet in height and is usually broadly oblong in outline.

The characteristic leaves give a striking distinctiveness to the tree. They are broadly heart-shaped at the base, and conspicuously notched at the apex; and the lobes are at first shallowly and subsequently deeply divided. The blade is

shining and gives to the foliage its lustrous green color. In May or June the beautiful flowers appear. They are always solitary at the ends of young twigs, and their tulip-like form has given the tree its popular name. The orange-yellow or greenish-yellow color of the flowers is very conspicuous, and, as the flowers frequently exceed $1\frac{1}{2}$ inches in depth, the tree is very attractive in full bloom. The cone-like fruits develop the same autumn and shed their seeds after the tree has become bare.

It is often known as the yellow poplar, saddle-leaf or white-wood, and under the latter name it is much used for carpentry. The native home of the tulip tree is from Massachusetts to Florida and westward. In the upper Hudson Valley it is rare and it is probable that most of the trees above Poughkeepsie are cultivated or derivatives of plants once cultivated. South of this point it is common. (Plate 143.)

Sassafras Tree

SASSAFRAS SASSAFRAS

In central New York and Massachusetts which are the northern limits of the sassafras it is often a mere shrub but occasional trees are seen and they frequently exceed 30 to 40 feet in height. Further south the tree attains a height of 80 or 90 feet. Even on young trees the bark is very coarsely-fissured and brownish in color.

There is a bewildering variety of leaf shape on most sassafras trees. On the same twig one often finds unlobed oval-shaped leaf-blades, intermixed with leaves lobed on one or both sides. When fully mature they usually have two prominent lateral lobes and a terminal one. In all forms the base of the blade is more or less wedge-shaped. At the ends of the twigs, and appearing with or before the leaves, the yellow-green flowers are clustered. Each cluster is at first enclosed by a green bud. The fruits are almost round, more or less fleshy and scarcely more than $\frac{1}{2}$ inch in diameter. They ripen in August or September.

Oil-of-sassafras is extracted from the roots and bark, and



TULIP TREE

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medicinal properties are credited to the bark of the root and the pith of the twigs. The wood is used in making pails and buckets, and for fence posts. It is common along the Hudson but most of the specimens are more shrubby than tree-like.

Sweet Gum

LIQUIDAMBAR STYRACIFLUA

Of all the trees included in this list it is doubtful if one of them surpasses in brilliancy of coloring the gorgeous autumnal tints of the sweet gum. In the Hudson Valley it becomes a tree 100 feet high or more. Its branches are ascending, and when very young covered with dense brown hairs, which subsequently fall away.

The characteristic star-shaped leaf-blades have a conspicuous tuft of hairs at their base on the under side of the blade. The lobes of the leaf are all pointed and the terminal and two upper lobes are conspicuously larger than the lower lobes. Both the fertile and infertile flowers of the sweet gum are arranged in globular little heads. The infertile heads are clustered on slender stalks which are all joined to a main flower-stalk, while the fruit-producing flower-heads are solitary on a short stalk arising at the base of the infertile flower-stalks. The fruit matures in the autumn and is about $1\frac{1}{2}$ inches in diameter; its whole surface is crowded with a collection of stout recurved prickles.

The wood of the sweet gum is used for a great variety of purposes, street paving-blocks being one of them. It grows naturally from Connecticut to Florida and westward. It is common in the lower Hudson Valley but rare or perhaps wanting north of the Highlands. (Plate 144.)

Button Wood

PLATANUS OCCIDENTALIS

Peter Kalm, a discriminating historian and traveller, writing in 1749, relates that in the northern part of New York City, large groves of the button wood flourished. To-day it is a common tree throughout the Hudson Valley and is found very generally distributed in the eastern states.

The peeling of the outer bark and consequent exposure of

large patches of the light gray inner bark is a conspicuous feature of this tree. The young branches, leaf-stalks and leaf-blades are all covered with a coating of white wool which falls off later. The broadly oval leaf-blades are coarsely-toothed or lobed, heart-shaped at the base, and sharp-pointed at the tip. Usually they are from 4 to 7 inches long, but vigorous young leaves are often twice this size. The little ball-like clusters of flowers have given the tree the frequently used name of button-ball. Usually the sterile and fertile flowers are arranged in separate flower-balls but sometimes a single ball may contain a mixture of both kinds of flowers. The fruit is scarcely more than 1 inch in diameter, ball-like, and yellow-brown in color.

The wood of the button wood, or sycamore as it is often called, is used for making tobacco boxes, ox-yokes and other articles and also for interior finishing. (Plate 145.)

American Mountain Ash

SORBUS AMERICANA

Throughout most of its range this plant is more shrub-like than tree-like, but in the far north it often attains a height of 25 feet.

The leaves are compound, that is, composed of from 12 to 18 lance-shaped leaflets all fastened to a common leaf-stalk. Each leaflet is acute at both ends and sharply toothed. The flowers are scarcely more than $\frac{1}{8}$ inch in diameter but some hundreds of them are arranged in a broad flat-topped cluster that is frequently 3 or 4 inches across. In the fall the tree is conspicuous with its brilliant scarlet berries.

The tree is too small and weak-wooded in the Hudson Valley to be of any commercial importance, but its brilliant autumnal coloring and its clusters of white flowers make it a splendid tree for decorative planting.

American Crab Apple

MALUS CORONARIA

The only native apple tree to grow wild in the Hudson Valley is this crab apple. All the ordinary apple trees are derived from the European apple, and in some places this



SWEET GUM
New York Botanical Garden

has escaped from cultivation and is now practically wild.

The crab apple is a tree sometimes as high as 25 feet, and its stout spreading branches often form a round-topped tree that is almost as wide as this. The oval-oblong leaf-blades are mostly rounded at the base and rounded or pointed at the tip. The marginal teeth are numerous and sharp. The flowers are usually clustered and make a magnificent showing in the early spring. The fine whitish or rose-colored petals, exhaling a delicate fragrance, are the most conspicuous feature of the flowers. In mid-summer the crab apples are ripe. They are usually about $\frac{1}{2}$ inch in diameter, fragrant and greenish-yellow in color.

The natural range of the tree is from Ontario south to the District of Columbia and westward. It is evidently rare in the Hudson Valley but grows in northern New Jersey. A few tool handles and domestic articles are made from its wood.

Serviceberry

AMELANCHIER CANADENSIS

The illustration gives a very fair idea of the shape of the serviceberry. The tree is seldom more than 40 feet high and often forms a symmetrical round crown. The shallowly fissured bark is dark reddish-brown and the twigs are the same color when old, and quite smooth. The leaf-stalks and young leaves are usually slightly hairy but become smooth when mature, except that the under side of the leaf-blades are sometimes persistently hairy. The leaf-blades are from $2\frac{1}{2}$ to 4 inches long, oblong or oval-oblong in outline, and shallowly heart-shaped at the base. On the margins the leaves are somewhat coarsely toothed.

When the leaves are about one third grown the white flowers cover the tree. They are clustered and often the clusters droop. The fine white petals are arranged not unlike a star, and they are blunt at the tip and narrowed towards the middle of the flower. About July or August the reddish-purple fruits ripen. There are from 4 to 10 seeds in each fruit, which is not more than $\frac{5}{8}$ inch in diameter.

Tool handles and machinery are sometimes made from the wood of the serviceberry and the fruit is often eaten. The tree grows wild from New Brunswick to Florida and is common in the Hudson Valley region. (Plate 146.)

Swamp Serviceberry

AMELANCHIER INTERMEDIA

The swamp serviceberry is a smaller tree than the preceding and it has other distinguishing characteristics. It rarely forms such a symmetrical tree as the common serviceberry, and is usually spindly or scraggy when growing in a crowded forest; it may often be found with several trunks arising from the same point, and is more commonly a shrub than a tree.

When the leaves and twigs are very young they are covered with a growth of dense white wool, but most of this wool is shed as they grow older. In outline the leaf-blades are elliptic or oblong, and they are very rarely heart-shaped at the base. The margins are toothed except towards the lower end of the leaf-blade where the teeth are often wanting. Before the leaves are fully expanded the flowers come out. They are very similar to those of the common serviceberry. The fruits of this sort are somewhat larger than the preceding, and dark purple-black when ripe.

The swamp serviceberry is of little economic importance. It has a similar range to that of the serviceberry and is very common all along the Hudson.

Cock-spur Thorn

CRATAEGUS CRUS-GALLI

Most of the thorns are mere shrubs but a few are small trees. They are armed with curved or straight prickles. The cock-spur thorn is often a tree 20 feet high or more with smooth, spreading branches. The leaf-blades are elliptic or sometimes wider above the middle, dark green and leathery when old. The leaf-margins are conspicuously toothed at the apex but smooth at the base. In early summer the tree is covered with a profusion of white flowers. These are usually arranged in little clusters of 7 or 8. In



BUTTONWOOD

Vassar College Campus, Poughkeepsie, N. Y.

the fall the dull red apple-like fruits make the tree very attractive. These miniature apples are about $\frac{1}{2}$ inch in diameter and contain usually only 2 stones, imbedded in the greenish flesh.

The tree is of little economic importance except for decorative planting. It is found wild from Lake Champlain to Georgia and westward. It is common in the lower and central Hudson Valley.

The English Hawthorn (*Crataegus Oxyacantha*) is botanically related to the cock-spur thorn and may be distinguished by its jagged leaves, and its usually single stone imbedded in the yellow flesh. It is known in the Hudson Valley only as an escape from cultivation.

Large-fruited Thorn

CRATAEGUS PUNCTATA

The shallower double-toothing of the leaf-margins of this thorn is very distinct from the toothing of the leaves of the cock-spur thorn. The fruits are brick-red and almost always contain 3 or 4 stones, imbedded in the greenish-yellow flesh. The tree attains a height of 25 feet or more.

It grows from Quebec southward to Georgia and is fairly common along the Hudson Valley.

The waxy thorn (*Crataegus pruinosa*) is not a very large tree and is found growing from the Thousand Islands to the southern Appalachians. From the preceding sorts it can be distinguished by its leaf-blades which are broadest towards the base. The fruit is waxy and purple-green in color. It is common in the area covered by this list.

Round-leaved Thorn

CRATAEGUS ROTUNDIFOLIA

This is credited with a distribution further north than any other North American thorn. It is also widespread, growing as far south as Virginia and westward to Wisconsin.

It frequently attains a height of 20 feet and forms a beautiful round-topped tree. The dark red-brown bark is scaly on the trunk but smooth on the twigs. The prickles are from 1 to 3 inches long and usually curved. The leaf-blades

are oval and roundish in outline and lobed or coarsely double-toothed on the margins. In late spring the beautiful clusters of white flowers make the tree very attractive. About October the dark red fruits ripen, and they are usually about $\frac{1}{2}$ inch in diameter and almost round. Imbedded in the dry yellow flesh are usually 2 to 4 stones.

Thin-leaved Thorn

CRATAEGUS TENUIFOLIA

In early spring this thorn is a conspicuous feature in the landscape as its young leaves are bronze-red. The tree is often 25 feet high or more, and usually has a large round crown. On the trunk the bark is scaly and gray-brown but the twigs are smooth and reddish-brown. The ellipsoid or oval leaf-blades are coarsely double-toothed on the margin, green on the upper surface and somewhat paler on the lower. The leaves have a tendency to be broadest towards their bases. The many-blossomed clusters of flowers are attractive in the early summer, followed in August or September by the small apple-like fruits. These are crimson, pear-shaped or oblong and not more than $\frac{3}{4}$ of an inch in diameter. In the acid yellow flesh there are usually 4, sometimes 3 or 5, stones imbedded.

The thin-leaved thorn grows wild from western New England to Virginia and westward. It is fairly common in the upper and central part of the Hudson Valley.

The twin-mountain thorn (*Crataegus pentandra*) differs from the thin-leaved thorn in having mostly 3 stones imbedded in the flesh of the fruit. It rarely exceeds 15 feet in height. It is known to grow in the central part of the Hudson Valley.

Pringle's Thorn

CRATAEGUS PRINGLEI

This is one of the most variable thorns of the region. The lobing of the leaves is often very different on separate plants but usually the leaf-blades are coarsely double-toothed or lobed. The many-flowered clusters of blossoms are very beautiful in the early summer and the fruit matures later



SERVICEBERRY

New Baltimore, Greene County, N. Y.

than that of most of the thorns. It is red, hairy, and is often eaten, but is too acid to be generally liked.

In Dutchess County Pringle's thorn is common but north and south of this it is apparently rare in the valley.

Red-fruited Thorn

CRATAEGUS MOLLIS

This well-known thorn is often called the red haw. It grows from Quebec to Tennessee and westward and is common along the Hudson Valley. It often attains a height of 35 feet and forms a broad round-topped tree.

The broadly oval leaves are sharply and deeply toothed, cut square or heart-shaped at the base and sharp-pointed at the tip. On the upper surface the leaf-blades are finely hairy, and on the lower surface woolly hairy. The curved prickles are not more than $2\frac{1}{2}$ inches long. After the flowers, which form many-blossomed clusters, mature, the fruits ripen. The latter are usually ripe by September, and have a yellow acid flesh. The outside of the fruit is crimson. There are commonly 5 stones imbedded in the flesh but occasional fruits are found with only 4 stones.

Brainerd's Thorn

CRATAEGUS BRAINERDI

So far as the Hudson Valley is concerned this is a localized plant. In the region about Dutchess County it is common, but beyond this it is rare. However it grows freely in western New England and is common in Pennsylvania. From all the preceding thorns it may be distinguished by its fruits. Those previously mentioned have the stones of their fruits without pits, but this sort has its fruit-stones pitted. Individual stones may sometimes be found lacking this characteristic but most of them are at least shallowly pitted.

Long-spined Thorn

CRATAEGUS MACRACANTHA

This is a common and widely dispersed plant. It seldom attains a height of more than 25 feet and forms an irregular, broad head. Its long, curved prickles, frequently exceeding 4 inches, gives the tree its common and technical names.

In outline the leaf-blades are oval, sharp-pointed at the base and similarly shaped at the tip. The lower quarter of the leaf-margin is mostly quite smooth, but from this point upwards the margins are conspicuously but finely double-toothed. Towards the tip the teeth often give way to distinct lobes. The many-flowered clusters of blossoms make the tree very attractive for planting. These are followed by the fruits which ripen about September. In outline the fruits are almost perfectly round. Imbedded in the sweet, pulpy, yellow flesh are 2 or 3 stones that are conspicuously and deeply pitted.

Wild Yellow Plum

PRUNUS AMERICANA

A tree sometimes reaching a height of 35 feet. The numerous branches are wide spreading and armed with prickly spurs. On the trunk the bark is split up into dark brown plates and on the branches it is reddish and smoother. The elliptic-oval leaves are from 2 to 5 inches long, rounded at the base and rather sharp-pointed at the tip. The leaf-margins are finely but sharply toothed. On the upper side the leaf-blade is dark green and smooth while the lower surface is paler and hairy, at least on the nerves or veins.

In May the tree is covered with the profusion of white flowers that has occasioned its popularity for decorative planting. The fruit follows, maturing about the middle of September. It is not quite round, about 1 inch in diameter and orange or bright red in color. The acid, yellow flesh is not much used, except for preserving, and imbedded in it is the oval, flattened stone.

The tree grows naturally from New York to Florida and westward. In the Hudson Valley it is more common towards the southern end than northward. Beyond its decorative value and the use of the fruits for preserves, the wild yellow plum is of little economic importance.

The common garden plum (*Prunus domestica*) grows wild in the Hudson Valley only as an escape from cultivation. The flowers appear in April or May with the leaves and its well-known fruit is too familiar to need description.

Wild Red Cherry**PRUNUS PENNSYLVANICA**

If the wild red cherry were a longer-lived tree it would be splendid for decorative planting. Its profusion of early bloom and the great number of bright red fruits make it exceedingly attractive. In favorable places it attains a height of 30 feet and a trunk diameter of 10 inches. The oblong or lance-shaped leaf-blades are from 3½ to 5 inches long, and finely, but doubly, toothed on the margins. In April or May the tree is a riotous mass of bloom, the flowers being arranged several in a cluster. The 5 petals are somewhat broader upward than toward the center of the flower. The round fruits are smooth and bright red, being much eaten by birds, although the flesh is bitter and rather thin. Imbedded in it is the round and slightly rigid stone.

On account of its soft wood the wild red cherry is little used except for fuel. It grows from Newfoundland to Georgia and westward, and is common along the Hudson, particularly northward.

The common sweet cherry (*Prunus Avium*) is often found growing wild in the eastern states, presumably spread by birds. The plant is a native of Europe.

Wild Cherry**PADUS SEROTINA**

The arrangement of the flowers of the wild cherry and the choke cherry is very different from those of the other cherries and plums. Those previously mentioned all have their flowers arranged in clusters with the individual flower-stalks arising several in a bunch. In the wild and choke cherry there is a general flower-stalk, rather long, and attached to this are numerous small individual flower-stalks. The flower cluster is thus oblong and contains from 30 to 40 flowers or even more.

The wild cherry is often 80 feet in height with a trunk covered with dark red-brown bark. The oblong-oval leaves are from 2 to 5 inches long and taper-pointed at the tip. Along the margins the leaf-blade is toothed and the teeth are distinctly incurved. The white flowers cover the tree in May

or June, followed later by a drooping cluster of fruits. These are purple-black when ripe, about $\frac{1}{3}$ to $\frac{1}{2}$ inch in diameter, and with an astringent flesh in which is imbedded the oblong, pointed stone.

Alcoholic liquors are sometimes flavored with the fruits of the wild cherry, which are also used for preserving. The tree is common from Nova Scotia to Florida and westward, and is plentiful throughout the Hudson Valley.

Choke Cherry

PADUS VIRGINIANA

The choke cherry is similar to the wild cherry, but usually smaller. In our region it rarely develops a trunk but occasional trees may be found. They never exceed 25 feet. From the flowers of the wild cherry they have practically no distinguishing characters, but the fruit is smaller and reddish instead of black-purple. The teeth of the leaf-margins are not incurved as those of the wild cherry, but spreading. Without seeing either flower or fruit the trees may be distinguished by this character of the marginal teeth of the leaves.

As a shrub the plant flourishes over a large part of the continent but as a tree it is rare. It is common in the Hudson Valley, particularly along roadsides, where its white clusters of flowers make it very attractive in the spring.

Honey Locust

GLEDITSIA TRIACANTHOS

This often forms a magnificent spreading tree that exceeds 120 feet in height. Its trunk, which is commonly 2 to 4 feet in diameter, is covered with a coarse, brown bark. The zigzag twigs are often armed with stout branching prickles that frequently exceed 4 inches in length. The leaves are doubly compound; that is, there is one main leaf-stalk to which are attached from 4 to 18 pairs of secondary leaf-stalks and these minor stalks usually have from 7 to 10 pairs of leaflets attached to them. All the leaf-stalks are hairy. The leaflets are ovate or elliptic, short-stalked, and not more than $1\frac{1}{2}$ inches long. They often "fall asleep" at night,

when they will be found face to face, instead of spread apart. Both sterile and fertile flowers are found on the honey locust, and they are both somewhat irregularly unequal, arranged in finger-shaped clusters and greenish in color. They contain great quantities of nectar and are much visited by bees. The subsequent fruits are pea-like but much longer than ordinary garden peas, frequently exceeding a foot in length. The seeds are flat and oval.

The durability of the wood of the honey locust when underground has made the tree much prized for fence posts and railroad ties. It grows wild from Ontario to Pennsylvania and Florida; most of the trees in the Hudson Valley are presumably naturalized as it seems not to have been ancestrally wild in the valley. To-day it is common.

The locust (*Robinia Pseudacacia*) is not a wild tree in the Hudson Valley but has become naturalized from its frequent cultivation. Its trunk is covered with deeply-fissured bark, and often forks into several main branches. The flowers are in clusters, white, and are much like a common pea. The pods are quite smooth. Naturally the tree is confined to a narrow belt stretching from southern Pennsylvania to Georgia. Its wood is very hard and durable.

The clammy locust (*Robinia viscosa*) may be distinguished from the preceding by its smaller stature, red or pinkish flowers, and hairy pods. Its natural range is confined to a small area in Tennessee and North Carolina; the many wild trees in the Hudson Valley are escapes from cultivation.

Staghorn Sumach

RHUS HIRTA

Most of the sumacs are shrubs, but an occasional tree 30 feet high may be found. The bark on the trunk and larger branches is smooth and brown; very rarely it splits up into small plates.

The compound leaves are from 16 inches to 2 feet long, hairy, and composed of from 11 to 31 leaflets, all attached to the common, reddish, or greenish-red leaf-stalk. The leaflets are themselves practically stalkless, lance-shaped or

oblong and sharp-pointed at the tip. The margins are finely toothed. There are two kinds of flowers, fertile and sterile, and they are usually found on separate trees, but occasional trees have both kinds on the same plant. Both kinds of flowers grow in large clusters, and the fertile flowers bloom about ten days later than the sterile. The fruits are in dense clusters, and when ripe the fruit-cluster is covered with a quantity of dark red hairs, thus giving the plant a beautiful color scheme in the early fall and late summer.

This sumac is common throughout the eastern states. The wood is of little value, but the bark and leaves are rich in tannin.

The scarlet sumac (*Rhus glabra*), a closely allied plant, is smaller than the staghorn sumac and it may be distinguished by its perfectly smooth leaves which are conspicuously whitish on the under side. It, too, is very common, as a shrub, but it rarely becomes a tree in the Hudson Valley.

American Holly

ILEX OPACA

It is only in the extreme southern part of the Hudson Valley that we find the holly. On Staten Island and Sandy Hook the tree was formerly abundant. In favorable situations it reaches a height of 50 feet and a trunk diameter of 2 feet.

Its well-known, prickly-margined leaves are from 2 to 5 inches long, quite stiff and leathery. There are two kinds of flowers on the holly, fertile and infertile and they are almost never found on the same trees. Both kinds are white and rather inconspicuous. It is mostly from the fertile trees that the Christmas sprays are picked with their profusion of bright red berries. Inside the berries there is a small prominently ribbed stone.

The whiteness and compactness of its wood make the holly desirable for turnery and it is also used in cabinet work and interior finishing. The tree is a slow grower.

Striped Maple

ACER PENNSYLVANICUM

Most of our native maples are large trees, at least 50 feet high or more; but the striped maple and the mountain maple are more frequently shrubby than tree-like. So far as the Hudson Valley is concerned these two kinds, and one other, differentiate themselves, also, from all the other maples by the arrangement of their flowers. In the tall growing kinds there are several flower-stalks that arise at one point, so that there is no real flower-cluster; only several individually stalked flowers. In the striped and mountain maples there is a rather long common flower-stalk which bears numerous stalklets that support the flowers. The whole flower-cluster is often 4 or even 6 inches long.

The striped maple takes its name from the striping of its young bark. It is prominently marked by white or greenish-white stripes, but these become fainter on the old wood. The broad 3-lobed leaves are often 5 inches long, heart-shaped at the base and usually yellowish-green on the upper surface. From the mountain maple it can readily be distinguished by its drooping flower-clusters.

The plant occurs mostly as a shrub within the Hudson Valley, but a few good-sized trees are found in the Catskills and farther north it attains a height of from 30 to 40 feet. South of Kingston it is rare in the Hudson Valley.

Mountain Maple

ACER SPICATUM

Of the eastern North American maples this species is the smallest. It is usually shrubby and in the Hudson Valley it is doubtful if it attains a greater height than 25 feet. It is a shade-loving plant and in favorable places it is exceedingly common. The leaves are from $3\frac{1}{2}$ to $4\frac{1}{2}$ inches long and either 3-lobed or partially 5-lobed. The margins of the lobes are coarsely toothed. The comparatively stiff and erect flower-cluster is a prominent feature of the mountain maple and this character serves as a ready distinction between it and the preceding kind. The fruits, as in all maples, are two-winged, to the imaginative suggesting an old time

key. In the mountain maple they are reddish and the wings are not spreading while in the striped maple the wings are widely spreading and bright green.

The mountain maple is common from northern New York to Georgia and westward. In the Hudson Valley it is very common from the Highlands northward. It is too small to be of economic importance.

Silver Maple

ACER SACCHARINUM

This is one of the most beautiful and widely planted maples used for ornamental purposes. It frequently attains a height of 120 feet and a trunk diameter of 3 feet. On the old trunks the bark is split into thin scales but the young branches are clothed with a smooth bark.

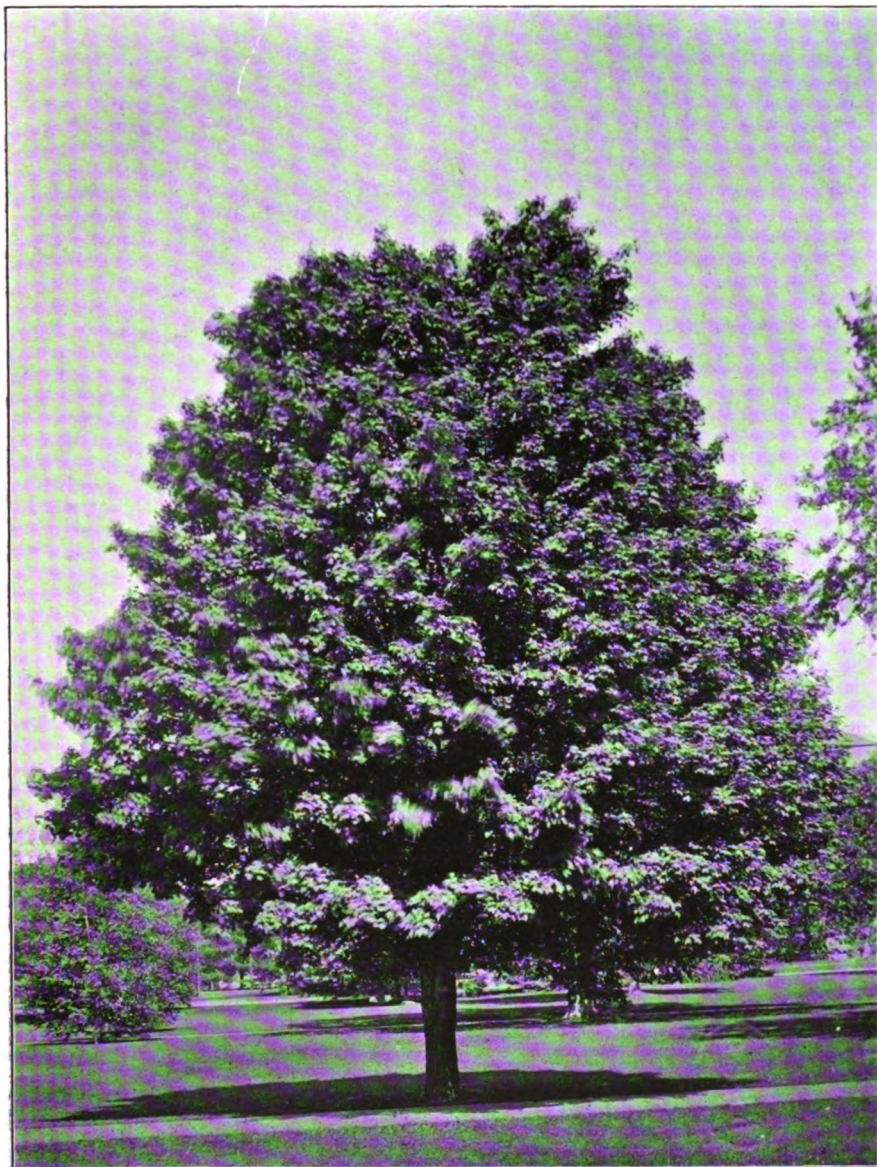
The leaf-blade is roundish in general outline, but is deeply 5-lobed to beyond the middle. They are bright green on the upper side, whitish or gray beneath. Long before the leaves appear the tree is covered with its flowers. They are greenish-red, but have no petals. Each individual flower-stalk is so short that the flowers appear to be stalkless and attached several together along the sides of the twigs. The typical "key" fruits have widely diverging wings.

The silver maple grows plentifully from New Brunswick to Florida and westward. It is common throughout the Hudson Valley. The brittleness of its wood has limited its use in the arts and manufactures.

Red Maple

ACER RUBRUM

The natural home of the red maple is in swamp lands, and often in the spring, before the foliage appears, the brilliant red flowers give a characteristic ruddy tinge to many of our swamps. The tree is often 120 feet in height and with a trunk 3 feet in diameter. On the old branches and trunk the bark splits off in rough plates; the younger branches are smooth-barked. The 3- or 5-lobed leaves are from 2 to 6 inches long and the lobes are more or less sharp-pointed. The silver maple and the red maple are the only tall kinds



SUGAR MAPLE

Vassar College Campus, Poughkeepsie, N. Y.

that flower before the leaves develop, and from the former the red maple may be distinguished by its stalked flowers. The fruits are also red, and the foliage turns bright red in the autumn, so the tree is well-named.

Throughout the eastern states the tree is common and in the Hudson Valley it may be found in great quantity. Its wood is largely used in the manufacture of furniture. Scarlet maple and swamp maple are names often used for this tree.

Sugar Maple

ACER SACCHARUM

Maple sugar and maple syrup have made this the most widely known of all our native maples. It rarely exceeds 120 feet in height, and when perfectly developed it has a great dome-like crown. The brown channelled bark of the old trunk does not split off in plates. The leaf-blades are roundish in outline, 3- or 5-lobed and sometimes as wide as 6 inches across the broadest part. On the upper surface they are dark green, on the lower paler or even bluish-green. Unlike the two preceding kinds the flowers of the sugar maple do not come out until the foliage is well developed. They are greenish-yellow and very conspicuous. The wings of the "key" fruits are almost parallel and strongly veined.

The tree is confined to the region east of the Mississippi and its tributaries, and is common in the Hudson Valley particularly northward. The wood is valuable for decorative finishing of all kinds, and the tree may be annually tapped for its sap, from which maple syrup and sugar are made. From 12 to 13 quarts a year per tree is an average yield of syrup. (Plate 147.)

Black Maple

ACER NIGRUM

In some localities this tree seems to usurp the place of the sugar maple, to which it is very closely allied. In the Hudson Valley the black maple is rare and local. It frequently attains the same stature as the sugar maple and its flowers and fruits are very similar to those of the better known tree.

The wings of the "key" fruit of the black maple are scarcely parallel, tending, rather, to diverge when old. The most distinctive difference between the two trees is the leaves. In the sugar maple the under-side of the leaf-blades is paler than the upper; in the black maple the leaf is uniformly green throughout.

The black maple grows from Quebec to Georgia and westward. Its wood is used for the same purpose as that of the preceding, and a little sugar is made from its juice.

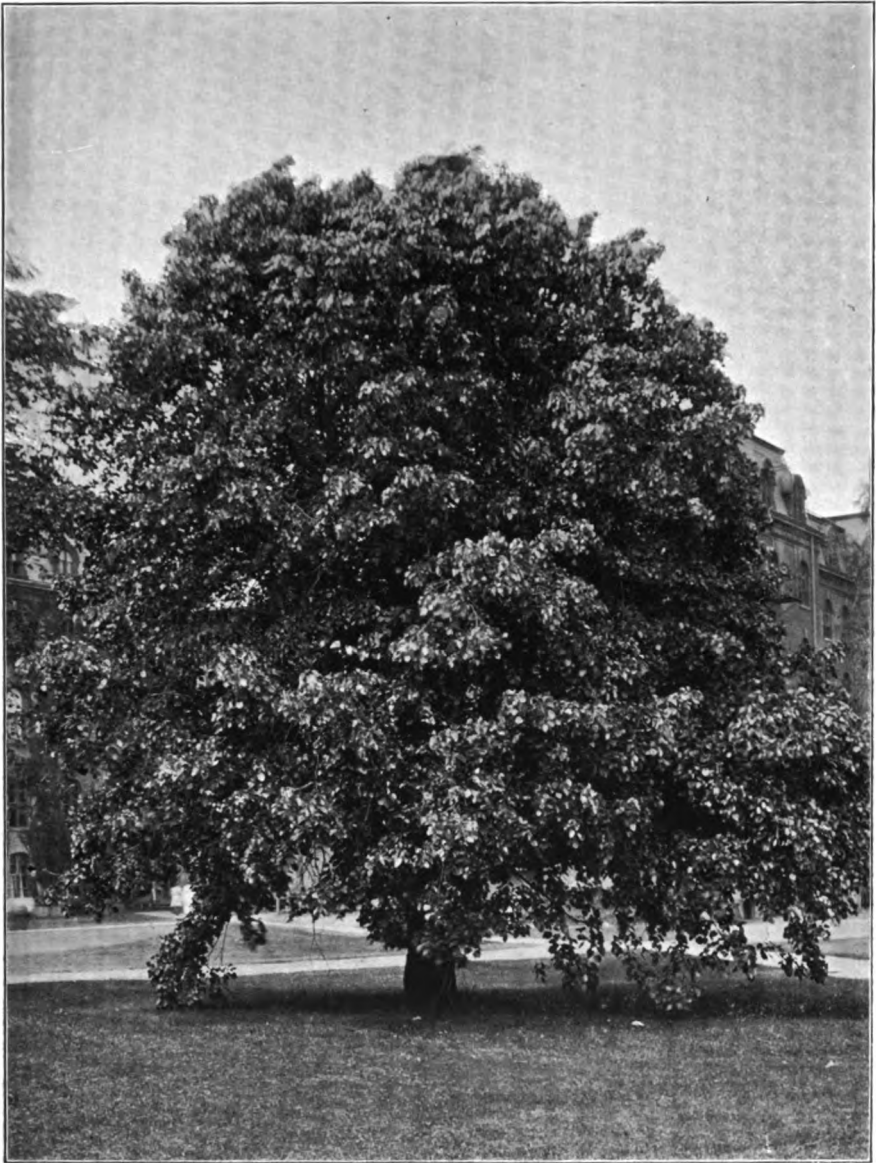
The Norway maple (*Acer platanoides*) is our most widely planted foreign maple. In the Hudson Valley it occurs wild only as a very rare escape from street or garden plantations. It is a native of northern Europe.

Ash-leaved Maple

ACER NEGUNDO

This tree takes its common name from its compound leaves which are somewhat like those of the ash. In the Hudson Valley it is the only maple that has a leaf composed of from 3 to 5 leaflets all joined to a common leaf-stalk. The tree often attains a height of 50 feet or more and the trunk is clothed with a thick-ridged and scaly brown bark. The leaflets, one or two parts of which with a terminal one are attached to a common leaf-stalk, are thin, oval or lance-shaped, and often irregularly or one-sidedly lobed. Either with the leaves or a trifle before them, the bright green flowers bloom. The flowers are without petals, and arranged in clusters similar to those of the striped maple and rock maple. When the tree is in fruit the cluster elongates greatly. The wings of the "key" fruits are divergent at various angles.

The ash-leaved maple grows from New York along the mountains to Alabama and westward. As a wild plant it is not definitely known in the Hudson Valley but it may be found in the northern part and it is much planted for ornament. The wood is soft and weak and is used to a limited extent in the manufactures. Paper pulp is made from it.



AMERICAN LINDEN

Vassar College Campus, Poughkeepsie, N. Y.

American Linden**TILIA AMERICANA**

When growing in the open the linden is apt to develop into a broad round-topped tree, but in the forest it is taller and more slender, often attaining height of 110 feet and a trunk diameter of 3 feet. The old bark is dark gray and furrowed into flat ridges. In outline the leaf-blades are oval or roundish, sharp-pointed at the tip and more or less unequally heart-shaped at the base. The blade is from 5 to 8 inches long and about $\frac{2}{3}$ as wide.

The stalk of the flower-clusters in the linden tree are peculiar, and make it comparatively easy to distinguish it from all the other trees of the Hudson Valley. To the lower third or half of the flower-stalk is fastened a leaf-like organ which is from 5 to 8 inches long and about $\frac{1}{5}$ as wide. These leaf-like flower-bearing organs occur indiscriminately mixed with the true leaves. There are from 5 to 20 flowers in a cluster, and they subsequently develop into the ovoid fruit containing a good sized seed.

The tree grows naturally from New Brunswick to Georgia and westward. It is common all along the Hudson. The soft wood is largely used for furniture, carriages, and woodenware; it is also a productive source of wood-pulp for paper manufacture. (Plate 148.)

Hercules Club**ARALIA SPINOSA**

In the south this plant often becomes a tree 25 feet or more in height. Towards its northernmost limit it becomes increasingly scarce. A few small trees have been found in the extreme southern part of the Hudson Valley, which may, however, have escaped from cultivation. All the woody parts of the plant are covered with short stout prickles. There is some popular misunderstanding of the leaves of the Hercules club. The leaf is very large and composed of a great many leaflets, which are attached to leaf-stalks that are themselves joined to the main or central leaf-stalk. The whole leaf is from 2 to 4 feet long; the leaflets scarcely more than 3 or 4 inches long, oval, thick and sharp-pointed. The

midrib on the under-side of the leaflets is often prickly. There is a huge flower-cluster sometimes 4 feet long, composed of hundreds of tiny white flowers. The fruits are black.

The tree is valuable for its decorative effect, but the wood is soft and weak.

Sour Gum

NYSSA SYLVATICA

This tree is often known as tupelo and pepperidge, and loves moist swampy places. It grows commonly in such situations from Maine to Florida and westward and under favorable conditions it attains a height of 140 feet. The branches are widely spreading and often the lower branches are conspicuously drooping. The leaves which turn brilliant crimson in the autumn, are more or less oval in outline, but usually broadest above the middle. They are taper-pointed at the tip, roundish at the base, and from $2\frac{1}{2}$ to 6 inches long. There are two kinds of flowers which appear about May. The sterile flowers are arranged in many-blossomed clusters, the fertile or fruit-producing in clusters of 3. The dark blue or purple fruits, usually arranged in clusters of 3, are about $\frac{1}{2}$ inch in diameter and contain a many-ribbed stone.

The wood of the sour gum is soft, but very tough and hard to split. For this reason it is much used in making wheels, rollers and ox-yokes. The sour gum requires a moist situation for favorable development, and if such a place can be found for it the tree is well worth planting for decorative effect. (Plate 149.)

Flowering Dogwood

CYNOXYLON FLORIDUM

This tree scarcely ever exceeds 40 feet in height, but it is one of the most showy and popular trees of the eastern states. The old bark is dark brown or nearly black in color, and is split up into small scales or plates. The leaf-blades are oval or elliptic in outline, and more or less sharp-pointed at both ends. The leaf-margins are shallowly toothed or quite smooth.



SOUR GUM
New York Botanical Garden

In early spring the tree is covered with what appear to be large white flowers. There are 4 of these petal-like leaves, each one notched at the tip, and they are really nothing more than a sheath which covers the small greenish flowers. These may be found at the point where the large white, petal-like leaves converge, and after the latter have withered the true flowers bloom. They are followed later by the bright red fruits which contain a hard stone.

Owing to its showy whiteness in the spring and the beauty of its branching the dogwood is much planted in lawns and parks. It grows wild from Massachusetts and Ontario to Florida and west; and is very common throughout the Hudson Valley. Its wood is much used in making parts of machinery, and tool-handles.

Persimmon

DIOSPYROS VIRGINIANA

It is only in the southern part of the Hudson Valley that we find the persimmon. Its range of distribution is from Rhode Island to Florida and westward, and it is only near Long Island Sound, on Staten Island and adjacent New Jersey that the tree is known to occur with us. Here they are scarce and local. In the north the tree is never more than 40 to 50 feet in height, but southward it becomes twice this size. The thick bark is dark brown or almost black, and somewhat irregularly fissured. When very young the leaves are hairy but they are quite smooth in age. In outline they are oval or oblong and from 3 to 7 inches long, sharp-pointed at the tip and more or less rounded at the base. There are two sorts of flowers, appearing about May or June. The fertile are solitary and the infertile are arranged in little clusters; both are greenish in color. The fruit is orange or reddish-orange in color, about an inch in diameter, and often persists late into the winter. The wood is used for the manufacture of shoe-lasts.

Black Ash

FRAXINUS NIGRA

When growing in its favorite habitat the black ash attains

a height of 90 feet and a trunk diameter of 20 inches, but most of the trees in the Hudson Valley are smaller than this. The thin, scaly bark is gray in color, and slightly fissured. The compound leaves are from 10 to 16 inches long and are composed of from 7 to 11 leaflets. The latter are practically without stalks and this characteristic is peculiar to this ash, all the other Hudson Valley ashes having stalked leaflets. The flowers are borne in many-flowered clusters. The individual flowers are without petals or covering of any kind. The fruits are clustered and each one is surrounded by a wing, the upper end of which is notched.

The wood of the black ash is very durable underground and it is much used for fence posts. It is also used in basket-making, interior finishing and cabinet-work.

Red Ash

FRAVINUS PENNSYLVANICA

This common and widely dispersed tree grows from Vermont to Florida and westward, and is plentiful throughout the Hudson Valley. Its average height is from 50 to 60 feet, and it not infrequently attains a trunk diameter of 5 feet. The bark is thick and furrowed, and usually brownish in color.

In the red ash there are 5, 7, or 9 thin, finely toothed leaflets that compose the compound leaf. They are in pairs, with a terminal one, and each leaflet is distinctly stalked, green on both sides, and from $1\frac{1}{2}$ to $2\frac{1}{2}$ inches long. In this ash the fertile and sterile flowers are borne on different trees. In both the sterile and fertile there are no petals and the flowers are greenish in color. From the fertile flowers subsequently develop the fruits which are winged; the wing is broader above the middle than below it and slightly notched at its tip. It may be from 1 to 2 inches long.

The wood of the red ash is much used in carpentry and wagon building, and the tree is desirable for street planting as it grows rapidly. (Plate 150.)

Darlington's Ash (*Fraxinus Darlingtonii*), a tree related to the red ash, is known to grow wild from Massachusetts to



RED ASH

New Baltimore, Greene County, N. Y.

central New York and southward, and may be distinguished by its fruits. In Darlington's ash the wings of the fruit are narrow, and practically parallel-sided, while in the red ash the wings are broader above the middle, the sides of the wing converge downward, and they are not parallel.

Michaux's Ash

FRAXINUS MICHAUXII

As yet this tree is little known and its distribution not fully determined. It is known to grow from southern New York to North Carolina and specimens grow in the grounds of New York Botanical Garden, at Closter, New Jersey, and on Staten Island. Its general features resemble the red ash and its chief distinctive characteristics are the greater thickness of its leaflets and the greater width of the fruit. Their margins are practically smooth while in the red ash the margins of the leaflet are more or less toothed, except in rare instances.

White Ash

FRAXINUS AMERICANA

Probably the best known and one of the most widely distributed of our native ashes. The tree prefers rich hill-sides and in such situations often reaches a height of 120 feet. Its bark is thick, grayish-brown and irregularly fissured.

There may be from 5 to 9, usually 7, leaflets composing the compound leaf and each leaflet is distinctly stalked. They are sharp-pointed at the tip, rounded or acutish at the base, from 3 to 6 inches long and fine toothed or smooth on the margins. The under face of the leaflet is paler than the upper and is either hairy or quite smooth. As in the red ash the fertile and infertile flowers are, in the majority of cases, borne on different trees. Sometimes, however, both kinds of flowers may be found on the same tree, but in different flower-clusters. The fruits are winged above and the margins of the wing are either parallel or converge slightly downward. The seed-bearing part of the fruit is full and round, the wing arising from its upper end, and not running down the side of the seed.

Button Bush**CEPHALANTHUS OCCIDENTALIS**

Almost all the plants of the button bush are shrubs, but occasional trees may be found. In the grounds of the New York Botanical Garden a plant was cut out that had died, apparently from old age, which was a good sized tree of 25 feet or more. On old trunks the bark is dark brown or nearly black, and deeply fissured. The leaves are arranged in pairs or threes on the twigs. The blade is oval in outline, sharp-pointed at the tip and rounded or wedge-shaped at the base. In July the compact, ball-like clusters of creamy white flowers almost cover the plant. The fruits ripen late in the autumn and are arranged in densely compact ball-like heads, usually $\frac{3}{4}$ of an inch in diameter.

The button bush prefers swamps and the edges of streams and is common over the greater part of the United States. In the Hudson Valley it is common, but mostly as a shrub.

Sweet Viburnum**VIBURNUM LENTAGO**

This plant is often known as nannyberry and grows in rich soil from Ontario to Georgia and westward. It is common in the Hudson Valley, where it occurs as a shrub or a tree in about equal proportions. As a tree it reaches a maximum height of 30 feet and a trunk diameter of 8 to 10 inches.

The leaves, which are in pairs along the twigs, are bright green, smooth on both sides, oval or elliptic in outline, very rarely becoming roundish. The margins are sharply toothed, and the leaf-blade is $2\frac{1}{2}$ to $5\frac{1}{2}$ inches in length from its sharp-pointed base to the taper-pointed tip. The small white flowers are borne in large, almost stalkless clusters, and the collection of petals in the individual flowers are united at their bases.

In September its buish-black edible fruits ripen. They are scarcely $\frac{1}{2}$ inch in diameter, covered with a bloom and contain a flat oval stone. The beauty of its autumnal foliage makes the plant desirable for decorative effects. Otherwise it is of little economic importance.

Black Haw**VIBURNUM PRUNIFOLIUM**

The black haw is more frequently a shrub than a real tree, although occasional specimens attain a height of 30 feet. It grows from Connecticut to Georgia and westward, and is very common along the lower Hudson, more rare northward. The stiff, spreading branches are usually armed with numerous prickly-like branchlets. The leaf-blades are smooth, from $1\frac{1}{2}$ to 4 inches long, and essentially oval in outline. They are somewhat sharp-pointed at both ends and the margins are finely toothed. They are not taper-pointed at the tip and this serves as the chief distinction between it and the nannyberry. As in that species the flowers are arranged in an essentially stalkless flower-cluster. The petals are white and united below. The fruit is much the same as that of the nannyberry and is edible, usually being most prized after it has been frozen.

The plant is greatly in demand for decorative effects, and the bark of the roots and trunk is astringent. The wood is brittle and of little economic importance.

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PORTRAIT OF ROBERT FULTON

Painted by himself

Property of Col. Henry T. Chapman

**At present loaned by him and on exhibition at the
Museum of the Brooklyn Institute**

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MUSEUMS OF THE
Brooklyn Institute of Arts and Sciences

FREDERIC A. LUCAS, D. Sc.
Curator-in-Chief

CATALOGUE
OF THE
HISTORICAL COLLECTION
AND
OBJECTS OF RELATED INTEREST
AT THE
CHILDREN'S MUSEUM

ANNA B. GALLUP, B. A.
Curator

HUDSON-FULTON CELEBRATION NUMBER

Prepared by
AGNES E. BOWEN

For list of Officers and Institutions, Hudson-Fulton Celebration,
see last four pages

HISTORY.

"History presents complete examples. Experience is doubly defective: we are born too late to see the *beginning* and we die too soon to see the *end* of many things. History supplies both of these defects: modern history shows the *causes* when experience presents the *effects* alone: and ancient history enables us to guess at the *effects* when experience presents the *causes* alone."—Bolingbroke.

INTRODUCTION.

As a part of the Hudson-Fulton celebration, it was planned that some of the larger public educational institutions of New York should issue catalogues of such portions of their collections as related to the discoveries of Hudson or the inventions of Fulton. Allotments for this purpose were made by the Hudson-Fulton Celebration Commission to the Metropolitan Museum of Art, American Museum of Natural History, New York Zoological Park, New York Botanical Garden and the Brooklyn Institute of Arts and Sciences.

The Central Museum of the Brooklyn Institute of Arts and Sciences contains the Tooker collections of Indian implements, illustrating the arts and industries of the Indians at the time of their discovery by Hudson, and collections of the animals and plants found in this vicinity. As the story of the Indians will be told at length in the Catalogue of the American Museum of Natural History, and the animals and plants will be described by that institution, the Zoological Park and the Botanical Garden, it seemed best to confine the publication of the Brooklyn Institute of Arts and Sciences to a Catalogue of the history exhibits at the Children's Museum, the more that such a publication would have not merely a passing interest, but a lasting value as a book of reference. This catalogue has been prepared by Miss Agnes E. Bowen, who has planned and largely executed the exhibits in the Children's Museum, and also written their very full descriptive labels. This exhibit has proved of very great interest to both children and teachers, and of great value in teaching the history of Brooklyn and its relation to the history of New York and of the country at large, and to Miss Bowen belongs the credit for the exhibits and for this catalogue.

FREDERIC A. LUCAS.

CATALOGUE OF THE HISTORICAL EXHIBIT, CHILDREN'S MUSEUM.

The history of New York hinges on the discovery by Hudson of what is now New York Bay and the Hudson River: but for this there would have been no Dutch colonies, so all the history of this part of the country dates from the coming of Henry Hudson, which set in motion the train of events whose record we call history leading to the conditions existing at the present time.

The special historical exhibit of the Brooklyn Institute is at its Children's Museum, placed there because it has been thought wise to make history attractive to *children*. Models, in miniature, objects and pictures present in engaging fashion an outline sufficiently full to permit understanding of the sequence of cause and effect in our national life, yet simple enough for a child of foreign parentage to comprehend. Excessive detail is omitted as confusing to the youthful mind which can, however, follow a broad outline. The purpose of the exhibit is the induction of civic and national spirit, of loyalty to traditions of this nation, and of belief that liberty means obedience to law. The foreign born is instructed to bring the noble traditions of his mother country as his contribution to the advancement of this nation. Our obligation to people of other lands is acknowledged in divers ways in the collections, and takes shape in the Historical Collection in models of the six types of people who were early settlers here. It is to be further amplified.

History as shown at this Museum may be said to center on the year 1609. For, in the belief that a local view-point appeals to the student of history, particularly if he be a child, emphasis is laid on Hudson's probable landing at Coney Island (a part of Brooklyn), on what he must have seen and heard along this shore, and on the Long Island Indians who first saw him and his men. Long Island Indians are those taken for the subject of a group in the series of type models, and the statement that Long Island was called by the Indians "Seawanhacky," meaning "The Island of Shells," and was "the great aboriginal mint" for the making of shell money,

opens the label on Wampum. Then came the Dutch settlements here, the beginnings of Brooklyn; English settlements in this vicinity and at the eastern end of the Island, and local and Long Island history down to the present. In connection with this our national history is studied, "the Brooklyn idea" finding place on numerous labels. Fulton visited in Brooklyn—that fact has precedence in the label about him: Hudson and the nation and company responsible for his explorations are charted with discoverers, nations and sovereigns through whose agency the White race entered other parts of this continent, our history being thus linked with that of Europe, though the latter is not afterward considered except when related to that of this country.

Taken as a whole the Historical Collection is fairly representative of our history from the period of discovery to and through that of Fulton, as perusal of the catalogue will show. In addition to the fine engraving of Hudson on the "Explorers" chart (all portraits of him are imaginary), and the photograph of Fulton on the "Inventors" bulletin, pictures of the two men are framed, given descriptive labels and hung in the main hall near a large direction card which calls attention to Hudson-Fulton features in the Museum. These are in all exhibition rooms in the building, exhibits in each having been singled out to receive notice. Such are serpentine, a rock whose outcrop at Hoboken is accurately described by Hudson; the topaz in the birthstone series of gems, which was Fulton's birthstone, he having been born on November 14; plants, trees and animals which are known to have been here when Hudson came, and books set apart on a "Hudson-Fulton Bookshelf" in the Library. This has also special bulletins. The orange shade of yellow is much in evidence, and the flags of Holland and the United States mark the route taken by both men.

Models, objects and pictures (Classes A, B and C) are grouped in five sections.*

* Lack of space at the Museum necessitates close arrangement, the need for the building to be erected sometime in the future being shown here as elsewhere. The need is especially impressed when a teacher brings a large class for study of the collection and can allow but a limited period of time. The class must enter by small divisions and hear too brief description. When, as frequently happens, several large classes come at one time, the situation is discouraging, for occasionally scholars must be disappointed, because they cannot remain until their turn comes to see the collection.

The first comprises European sovereigns and navigators and American Indians, sovereigns and explorers taking precedence because the history is prepared from the stand-point of the White race. The second, the settlement and colonial period. The third, the period covered by the six wars. The fourth is devoted to New York State and the City of New York, and the fifth, to Brooklyn and Long Island. The last two sections may seem to overlap, but they do not. Until recent time, historically speaking, Brooklyn was a separate entity. The fact of its now being a borough of the City of New York finds place on labels whenever necessary and is not allowed to be forgotten. Brooklyn and Long Island are so united historically and in the present daily life of the inhabitants that the children naturally think of them as in combination. Queens, also on Long Island, is a borough of New York City. That fact will be mentioned in the history of Queens County, yet to be prepared, and also in the label about New York City.

The collection is still unfinished, though its plan and scope are definite, and it is being extended as far as practicable. The line of extension, however, has to depend upon what can be obtained. Thus New York State and City, a section which, it was hoped, might be developed in time for this celebration, is still meagre; the series of United States money is but begun; Brooklyn and Long Island in the Six Wars (Section III) period is represented by but one picture, one sword and the model of the monitor which was made at Greenpoint, although Section V has efficient representation otherwise. It will be noticed that the sword and monitor, though listed in the objects illustrative of the Civil War, are related to Brooklyn and Long Island (Section V) by their labels. The Flag exhibit is unfinished, but the material is in hand and will be installed as time permits.

Section I, however, is complete, as it contains enough to convey the idea of the meeting of Europeans and American Indians. Two charts with portraits, maps and appropriate text, and a model of the "Half Moon," present the first mentioned. Indian ornaments, wampum and utensils, and a fascinating group of Indians digging clams on Gowanus beach

present the second. The group brings the Brooklyn idea forward, for Gowanus is a part of this borough; the flat on which the cornfield stands that forms the background represents that land first bought *and its purchase recorded* in the present Kings County. The borough of Brooklyn is in Kings County.

Following the Indian group are six showing the most important types of early settlers within the limits of the United States: the Spanish, French, British and Dutch, there being three British sub-types; Cavalier, New England and Quaker. The influencing religious beliefs are expressed in Spanish, French and New England models. The first has a Franciscan friar listening to a Spanish soldier who is urging the establishment of a new mission. It has a setting of mission ambulatory and garden in the Southwest; the second, the arrival of a Jesuit at a mission outpost on the northern New York border on a wild winter's day; the third, the visit of a clergyman of the Congregational Church upon a prominent family of his parish, in whose well-furnished parlor he partakes of the usual refreshment of Bohea tea and sponge cake. Though widely separated by creed, these little groups set forth the idea that the settlers here brought with them earnest religious belief, for Franciscan and Jesuit softened the rigors of Spanish and French domination and were ever faithful to the widely separated people in their charge, while the New Englanders settled as congregations, in parishes, each with the clergyman as a dominant force. The Quaker scene also sets forth the religious idea in its very name, though it portrays the making of a "name-quilt" for a bride's "setting-out," the frame standing in an old-fashioned kitchen, through whose open "entry" door arrives one of the men guests for the supper that is to conclude the "quilting-bee." The Cavalier scene pictures the meeting of a gentleman of fashion and his fiancée at the garden porch of an old red brick Virginia homestead. Here the dominant church might be of either form of the two predominating faiths. But the Dutch scene is that of the trading-post in the forest at Fort Orange (Albany), the trader buying bear skins of friendly Indians, while his wife, two dogs and two pigs look on. This expresses the fact that the Dutch re-

mained here at first entirely for trade and because of commerce cultivated the friendship of the Indians, omitting the religious idea in their dealings, though without doubt they possessed it, for they were most liberal toward all forms of belief. It will be remembered that Hudson—of whom it has been said that he would have made a better modern consul than any other explorer of this country—noted the possibilities for trade in the amount of fine peltry that he observed.

These type models are placed in chronological order in a wall case, each having electric illumination, and appearing as a separate little scene. Detailed description may be found in the catalogue, where the labels are given.

Brooklyn has its special Dutch model, of extra size, permitting more detail. It is the home of a Patroon. Brooklyn's representative of this form of the feudal system is housed in a mansion whose lines are reproduced from two ancient homesteads, still standing, near Bergen Beach, Jamaica Bay; erected by members of the Bergen and Schenck families when that section was first settled, on land over which some of Hudson's men very likely passed, or, at least, saw. The Schenck house is built of the timbers of the ship in which the original Schenck came to this country. He beached it near where the house now stands and took it apart. The ship's "knees" are the ceiling supports of the first floor.

Models representing the Six Wars are to be nine in number, as Myles Standish, the first commissioned officer in New England; a group representing naval warfare with the French and the Mediterranean pirates; and another showing Indian warfare in the West, will complete the series. Thus far it has Standish, a short soldier in a full suit of armor and holding a matchlock, standing on guard in front of the meeting-house and fort on Burial Hill, Plymouth; an English frontiersman, ambushed, shooting a crouching Indian with a flintlock, the frontiersman dressed in deer-skin and representing in type the French and Indian wars; a scene in the Vassall House (Headquarters), Cambridge, when Washington and his aide-de-camp, John Trumbull, meet John Paul Jones. This typifies the Revolution. The first is a snow scene, the second a forest, and the third a well-furnished

room. The first two models and a set of photographs of the historical exhibits represented the Children's Museum at the Historical Bazar, held at the Plaza Hotel, Manhattan Borough, in November of last year.

Settings average 22 inches in length, 15 in height and 12 in depth. The average height of the figures is 7 inches, Washington, of course, standing above this, and Standish and Jones proportionately below it.

The miniature treatment of the subject enables the child to comprehend it at a glance and to understand the distinct and inclusive character of each type. Teachers and adults who have charge of children appreciate the putting of history into tangible form, which is unequalled as a vehicle for bringing an intellectual concept to children.

Before the plan for the group may be formulated the period which it is to represent must be carefully studied. An instance of the difficulty experienced here appeared when it was desired to incorporate Washington, Jones and Trumbull, the portrait painter, in the "Revolution" group. Had they or could they have met in Boston at any time between July 3, 1776, and the succeeding April? This involved months of research. When historic accuracy is settled—and it would seem that the easily ascertained facts of history are not suitable for miniature type model—then arise the questions of setting, proportion, grouping and color, as important as in a stage presentation. To complicate matters, these must be accurate in the historic sense. One mistake here would cause some observer to forget all else in the entire exhibit. The amount of study necessary to these preliminaries may be judged by the book list appended. Cut and material of the costume, with average measurement to decide the amount, must be certain before doing the preliminary shopping for the figure models, as some of the accessories are expensive. With all this goes study of the character and personality of the one it is desired to model, complexion and color of the hair often modifying the color scheme. Where possible the figure models are portrait models.

Preparation for label writing is included in that for the models, but has an additional difficulty. While the model is

of but one typical scene, the label must describe that and also give concise epitome of the period represented, one usually so full of interest that this exceeds other space writing, in laboriousness, for its value is dependent upon condensation instead of "spread." As the labels are to appeal to children they are sometimes read to a child and changed to the exact form of expression used by him in repeating the story. This accounts for the extreme simplicity of some and for a repetition of words, it having been found that perhaps but the one word, not any of its synonyms, conveys that one idea to a child.

Children, for whom the models were made, are most enthusiastic and enjoy them in process of making perhaps as much as in the finished product. Several have been built in the laboratory of the Museum, a basement room with windows opening into deep well-holes which are covered by iron gratings. Here the children would crowd in such numbers as to obscure the light. When sent away they compromised by having two remain on watch, these giving out information as if interpreting a pantomime to the others who grouped themselves "out of the light." Comment and instruction were freely intermixed. "She's wirin' him. Now she's makin' his face and hands. He ain't very pretty," was said of the Franciscan padre as he was being made, with "Oh! Oh! Oh! Now she's puttin' him in the oven!" said in horrified tones as, the day being warm and the composition not drying sufficiently fast, the figure was baked a bit to hasten its completion. A pretty girl made the courtesy and stood in position while the fair maiden of the Cavalier group was modeled. Then "standing room only" was purchased of those nearest the window by payments of candy, marbles, etc., the youngsters waiting on line for their turn. When the Dutch trading group was made and the dogs introduced, one lad bashfully said:—"You don't mind if I tell you? Those are a white man's dogs, and they would not like the Indians, so their ears would be down instead of up." Inquiry confirmed this and down went the ears. The making of the morion, or helmet, for the Spanish soldier was a poser. His costume was decided upon after much study, many trips to the invaluable

library of the Long Island Historical Society and the translation of paragraphs from foreign books, Spanish and German. The morion was finally made of thin pasteboard soaked in thick glue, formed over a block made of the maker's thumb, held in position until dry enough to remove and then baked in the oven. Children watched until the operation was finished.

Historic objects about the Museum were first collected and put in one room in the year 1905, at which time the charts were prepared and the first model made. This was the Patroon's home, carried out in pasteboard, as an experiment, "To see if the children would be interested." The experiment was satisfactory, for the children gathered around "the playhouse" like bees. Now, however, they realize that the "model is history," and they scorn mention of its figures as "dolls." "Don't call them dolls," said a youth of about nine years of age. "They are models, not dolls. If they were just dolls do you suppose *I* would care for them? Some of that hair was made of cotton. I saw it done. How long do you suppose that a *doll* with cotton hair would last?"

Children also are greatly interested in objects and pictures. The warming-pan, foot-stoves, lanterns, case of arms, tokens for use as money, the spinning wheel, etc., attract them. It would be difficult to say which gets the most of their attention. Some of the labels are known "by heart," the older children teaching them to the younger. A new exhibit causes much excitement. The children wish to "know everything about it," and put numerous questions. Then they bring their parents, teachers and members of their class.

An invariable question is, "How soon'll that picture be in a lecture?" For lectures on history hold important position in the series which each season covers work of Museum departments. Last Election Day, Miss Mary Day Lee, the assistant curator, spoke four times on "When Old New York was Young," and on February 22, her talk on Washington was repeated seven times to accommodate 973 children. A lecture on Lincoln, given by Miss Gallup on February 12, attracted 726 children and was repeated six times. This, although there was a procession and many other things to

tempt the little folks to remain away. All lectures are illustrated by lantern slides, the set prepared for a lecture on the Museum's historical collection being frequently used by Miss Gallup in addresses explanatory of the Museum's work, given in other cities.

Members of the City History Club assisted at the Lincoln lecture. A chapter of this club, organized March 13, 1907, under auspices of the Colonial Daughters of the 17th Century, meets at the Children's Museum during the winter, the place chosen because of its exhibit in local history. Last season it was directed by Howard C. Green, Instructor in the English Department of the College of the City of New York. There were three field trips, one to the Brooklyn Navy Yard and two to Manhattan. The Hudson-Fulton celebration was a frequent topic at the chapter's spring meetings.

The Library is a valuable adjunct to the Historical Collection, being rich in works on American history. Its bulletins for important days are cleverly arranged to attract the child. There are bright pictures, bits of poetry, and the childhood of the famous person is dwelt upon. The bulletin has always its book list, or if, as at present, the subject be of sufficient importance, a bookshelf is set apart for reference volumes. The librarian, Miss Miriam S. Draper, made note that the call for special books began soon after the subject of the celebration was broached. Among those called for have been biographies of the two men, a history of Holland, of the Erie Canal and Dutch canals and origin and results of the Hague Conference; biography of Chancellor Livingston, the friend of Fulton; physics and mechanics in relation to steam, electric motors and boat building; Long Island, New York State and New England Indians, their costume, and wampum; history of the occupation of this section of country by the White race, especially that of the settlement and Revolutionary periods, history of the army, navy and flag, and books on the geography, geology, botany and zoology of this state.

Surprise at the variety of interests brought up by the celebration has been expressed by children and adults. Teachers have come for aid in preparing programmes and an

historical play on New York history for school celebrations, and the demand has increased for poems on historical and patriotic topics. Those especially engaged in getting up Hudson-Fulton celebrations at the fifty educational centers of this city have made frequent use of both library and models.

The writer, who planned the historical exhibit, designed its historical models and made the figures, and other parts of them, takes this opportunity to thank for their very generous assistance in the work, the Curator-in-Chief of the Museums, the Curator of the Children's Museum, its Librarian, the staff, and also the staff of the Library of the Long Island Historical Society, and the many not connected with Museums or Library who have shown interest and given help just when needed. Mention should also be made of those whose work appears in the models. Herbert B. Judy, the Museum artist, painted the effective background for the French group; John Bender, the Museum cabinet-maker, carved the quaint porch for the Cavalier group; much of the woodwork construction, especially that in the British groups, and a part of the modeling was by C. R. Luscombe, and the Indian group was modeled by Antonio Miranda.

AGNES E. BOWEN.

At the entrance and in the halls are copies of this large direction card:

HUDSON-FULTON.

Exhibits of interest in connection with the HUDSON-FULTON CELEBRATION are on view in every exhibition room in this building.

The Historical Collection (2d Floor) has been re-arranged and increased. *There* will be found much about HUDSON.

A Bulletin concerning Mechanical Engineers and Inventors is in the Hall (1st Floor). *There* will be found much about FULTON.

In the Library (2d Floor) are a HUDSON-FULTON Bookshelf and Bulletins about the two men.

LOOK FOR THESE SPECIAL EXHIBITS.

The bulletin mentioned has pictures and text about Fulton, who is put in the center; Franklin, Fitch, Stevens and Livingston, to whom he was indebted for the lessons of their successes and failures, and other men noted along this line of engineering.

Near it is hung a frame containing pictures of Hudson and of Fulton, each with descriptive labels.

The following (panel shaped) labels on "History" and on "American History," are set at either side of the entrance to the room in which the Historical Collection is installed.

NO. I. HISTORY.

"History presents complete examples. Experience is doubly defective: we are born too late to see the *beginning* and we die too soon to see the *end* of many things. History supplies both of these defects: modern history shows the *causes* when experience presents the *effects* alone: and ancient history enables us to guess at the *effects* when experience presents the *causes* alone."—Bolingbroke.

NO. II. AMERICAN HISTORY. WHAT TO LEARN FROM THE HISTORY EXHIBIT.

To us, "Citizens of the Commonwealth of New York, by the Grace of God, Free and Independent," according to the quaint legal wording, the date 1609,—when Henry Hudson passed and named Sandy Hook, anchored in Gravesend Bay and landed on Coney Island, thus bringing civilization and commerce that founded this commonwealth—seems most important. It is one of the great world dates. It relates us to the history of civilization.

As citizens of this commonwealth it is our duty to study its history and to gain intimate knowledge of the men and women through whose efforts it was made "Free and Independent." Though they sometimes erred—being but mortal—in the main they were brave men and sweet women of fine character, who, for the sake of freedom—for themselves and more especially for their children—endured the hardships of the pioneer and often gave up their lives.

Let us honor them with the loyalty of loving children and pass on to our descendants a heritage bettered through our efforts.

New York is but one of the many states composing our Union. All have great records. As citizens of these United States, therefore, let us so conduct ourselves that our country may be the better for our living and our flag be everywhere recognized as the emblem of a noble nation.

Following is the inner entrance label:

AMERICAN HISTORY.

ORDER FOR STUDY OF HISTORY EXHIBIT.

SECTION I. EUROPEAN SOVEREIGNS AND
NAVIGATORS: AMERICAN INDIANS.

SECTION II. SETTLEMENT AND COLONIAL
PERIODS.

SECTION III. THE SIX WARS.

SECTION IV. NEW YORK STATE AND CITY.

SECTION V. BROOKLYN AND LONG ISLAND.

SECTION I.

EUROPEAN SOVEREIGNS AND NAVIGATORS:
AMERICAN INDIANS.

GENERAL LABEL.

EUROPEAN SOVEREIGNS AND NAVIGATORS: AMERICAN INDIANS.

This section prepares the student for study of the White race on this Continent, and connects the history of the race here with that in Europe. The Indians, the brave, resourceful Red race that they overcame, are typified in one model, but it must be remembered that the Red race was—and still is—divided into many nations. Of special interest to the people of this city and state is the model of "The Half Moon" (De Halve Maene), the Dutch ship commanded by Henry Hudson, the English navigator who discovered this harbor and the river named after him.

(Class A)

NO. I. DUTCH TYPE. SHIP, "THE HALF MOON" (DE HALVE MAENE). LABEL:

This model represents a ship of the early part of the seventeenth century such as was used by Henry Hudson. The exact dimensions and rig of Hudson's ship are not known, but in a ship such as this Hudson sailed first to the sea about Spitzbergen, then to the coast of Newfoundland, thence to the entrance of Chesapeake Bay and then north to New York and up the Hudson River as far as Hudson. Small as this vessel is, in comparison with those of to-day, vessels of this type were yet able to reach a little beyond 80° North Latitude, and 300 years of work and the expenditure of much life and vast sums of money have only succeeded in attaining a few degrees farther north than did the Old Dutch Whalers. In comparison with modern steamships, it may be said that it would take seven vessels the size of the "Half Moon" to carry a day's supply of coal for an ocean liner;

and that one modern steamship carries as much cargo as a fleet of 125 vessels of the size of the "Half Moon." The approximate length of the "Half Moon" was 75 feet; beam 17 feet; depth of hold 6 or 7 feet.

(Class C)

CHART 1 SHOWS (LABEL), "SOVEREIGNS OF EUROPE WHO SENT NAVIGATORS ON VOYAGES OF DISCOVERY TO THIS CONTINENT, WITH NAMES OF MEN FIRST COMMISSIONED."

Detail of Chart 1: Center—(Map of the World with discoverers' routes drawn in blue). This map shows countries in Europe from which came discoverers of and early white settlers in America. Note by what comparatively easy route Norsemen reached this coast. See how near are Alaska and Siberia.

No. 1.

Legend tells of a wonderful land west of Europe, discovered by St. Brendan or Bren-ainn (484-577), an Irishman of royal lineage, in a second missionary voyage, taken in a vessel made of wicker and ox-hide. The first was to Iceland. Articles drifting ashore at the Azores, now known to be from America, were all thought to come from St. Brendan's Land. The Spanish government sent many vessels in search of it, the last in 1741.

No. 2. (Picture of Viking.)

Many centuries ago the Vikings sailed from Scandinavia to Greenland. In the year 1000, Leif, son of Eric the Red, sailed from Greenland, discovered our coast from Labrador to Point Judith, wintered near Boston, and returned in the Spring with a cargo of timber.

About 1170, Madoc, a Welsh prince, compelled by civil strife to leave home, sailed westward with a colony. It is thought they settled in the Mississippi valley. Madoc returned, equipped another expedition, and again sailed westward, but was never heard of thereafter.

No. 3. (Pictures of Ferdinand and Isabella and of Emanuel.)

Spices, prized by Europeans, were brought from Asia. Henry the Navigator, of Portugal (1394-1450), thought it possible to sail *eastward* around Africa, and bring them by sea. In 1492, Ferdinand and Isabella, of Spain, sent Christopher Columbus sailing *westward* to find India—for people were beginning to believe that the world is round. These portraits of the sovereigns are from the originals by Ximeno Camaron, in the Royal Palace at Madrid. In 1497, in the reign of Emanuel of Portugal, Prince Henry's hope was realized, for then Vasco da Gama doubled the Cape of "Good Hope." Emanuel's picture is from the original in the Royal Palace at Lisbon. Painter unknown.

No. 4. (Pictures of Henry VII and Maurice of Nassau.)

England became interested in the new over-sea route. Henry VII gave permission to John Cabot, a naturalized Venetian, living in Bristol, to sail at the expense of English merchants. He went from Bristol in May, 1497, in a small vessel, with but eighteen persons in his company. *On his discoveries England based her claim to North America.* This picture of King Henry is from a painting at Kensington Palace. The Dutch, well supplied with capital, ships and mariners at the close of the war with Spain, made effort to find a western passage to the Indies. In 1609, the Dutch East India Company, then the greatest commercial corporation in Europe, sent an expedition under Henry Hudson, an Englishman. Maurice of Nassau was then governor. The picture of him is by Miereveld.

No. 5. (Picture of Francois I.)

In 1524, Francois I, of France, sent Verrazzano to find a way to China. He explored our coast. *By virtue of his discoveries the French claimed a great part of America.* Picture by Titian.

No. 6. (Picture of Queen Christina.)

After the successful settlement of the Dutch in the New Netherlands, Usselinx, projector of the Dutch West India

Company, submitted to Gustavus Adolphus, of Sweden, a scheme for the establishment of a similar commercial association in that kingdom. The act of incorporation was passed in 1626, but the German War and the death of the king compelled postponement of the plan until 1637, in the reign of Christina. Then Peter Minuit, former Director General of the New Netherlands, was commissioned to establish a colony, which he did in 1638, building Fort Christina near where Wilmington, Del., now stands. The picture is from the original in the Royal Palace, Sweden.

No. 7. (Picture of Empress Catharine.)

A favorite project with Peter the Great, of Russia, was to find out if Asia united with America at the northwest. Unable to accomplish this during his lifetime, he left instructions, faithfully executed by Empress Catharine, who fitted out an expedition for this purpose and entrusted it to Captain Vitus Behring, a Danish navigator in the Russian service. He discovered Behring Strait in 1728. This picture of Catharine is from a noted one, by Lampe.

CHART 2 SHOWS (LABEL), "THE NAVIGATORS, THEIR SHIPS,"
AND GIVES CONCISE RECORD OF THEIR LIVES.

Detail of Chart 2: Center—(Map of America, showing points at which discoverers touched, and chart of voyages of Columbus, Da Gama and Magellan).

No. 1. (Picture of a Norse ship.)

St. Brendan's ship was of wicker and ox-hide, in form like a hollowed log; Madoc's ship was larger, but something of the same shape; the Spanish ships were of slight construction, but the Norse ships were well made and handsome. A Viking ship was discovered in 1880, at Gokstad Sandefjord, Norway.

No. 2. (Picture, Lief Ericson, from the statue by Miss A. Whitney, at Boston, Mass.)

Lief Ericson, viking and explorer, was born in Greenland. He went to Norway in 998 and brought Christianity back with him. In the year 1000 he sailed from Brattahlid,

on the east coast, with a crew of 35 men, discovered this land and began settlement. Norse colonization ceased about 1012. In old story Lief is called, "a large man and strong, of noble aspect, prudent and moderate in all things."

- No. 3. (Pictures, the "Santa Maria," "Pinta" and "Nina."
Photographed from the model caravels sent from Spain for the Columbian Exposition. The "Santa Maria," Columbus' flag ship, under full sail.)

The Spanish Ships.

- No. 4. (Pictures of Columbus and Vespuccius.)

Christopher Columbus, Genoese navigator, commissioned by Ferdinand and Isabella, of Spain, discovered America at San Salvador, W. I., October 12, 1492. He made four voyages, planted colonies, and died in Spain, May 30, 1506. This picture is from the authentic Thevet portrait. *But the new world was named for Americus Vespuccius*, a Florentine, who was with an expedition to South America in 1499 and wrote so pleasantly of this and other voyages and of the new land he had seen, that Waldenseemüller, a German geographer, suggested that the country be named for him. He died in 1512. This picture is from the portrait by Bronzino, painted from life, treasured by the Vespucci family, and committed by them to C. Edwards Lester, United States Consul to Genoa, in 1845.

- No. 5. (Picture of Vasco da Gama.)

Vasco da Gama, a Portuguese navigator, commissioned by Emanuel of Portugal. He sailed around Africa to India in 1497, thus accomplishing what Columbus and others attempted to do by crossing the Atlantic Ocean. He died in 1524.

- No. 6. (Picture of Sebastian Cabot.)

John Cabot or Zuan Caboto, a Venetian navigator, sailed under the English flag. He was engaged by Henry VII at the time of Columbus' discovery, and was immediately given letters authorizing him to take possession of any lands he

might discover, for the English. He sailed from Bristol in 1497, in a small vessel called "The Matthew," with but eighteen in his company. He landed at Cape Breton and was the first to touch the mainland, claiming it for England. He was lost on his second voyage, in 1498. His son, Sebastian Cabot, carried on his father's work, became a famous cartographer, held influential positions under the kings of Spain and England, and died in 1557. This picture is from the original in the possession of Charles Joseph Harford, of Bristol, England.

No. 7. (Picture of Verrazzano.)

Giovanni da Verrazzano, a Florentine navigator, was sent out by Francois I, of France, in 1524. He explored the coast from North Carolina to Nova Scotia. French claims to America were founded upon his discoveries. Probably executed as a pirate in 1527.

No. 8. (Picture of Hudson.)

Henry Hudson, English navigator, commissioned by the Dutch to find the "Northwest Passage" to the "Spice Islands," discovered New York harbor, September 4, 1609, after sailing along the coast from July 2 of that year. He went up the river as far as Albany. His ship was called "The Half Moon." In 1610, he left England again to look for the "Northwest Passage." On that voyage he discovered Hudson Strait and Hudson's Bay. Here the ships were frozen in for three months and after enduring many hardships the crew mutinied, bound Hudson, his son, and seven others, and set them adrift in a small boat. They were never heard of afterwards.

No. 9. (Picture of the Swedish ships.)

Peter Minuit, born at Wesel-on-Rhine, went to Holland early in the seventeenth century, and was made Director General of the New Netherlands, ably filling office from 1625 to 1631, when he was recalled. He offered his services to Sweden and through the influence of Chancellor Oxenstiern, a Swedish West India Company was formed and Minuit com-

missioned to take out a colony of Swedes and Finns in 1637. They landed in Delaware and built a fort near the site of Wilmington, calling it "Christina," from the Swedish sovereign. The Dutch opposed their landing and finally captured the colony in 1655.

No. 10. (No picture.)

Vitus Behring (1680-1741), a Danish navigator, was employed by the Empress Catharine of Russia to explore the northwest coast of Alaska to find if it joined America. He started in 1725, crossed Siberia and spent three years at Okhotsk in preparing for the voyage. He discovered Behring Strait in 1728. On a later voyage, in 1740, he crossed the strait to America, but on the return trip the ship was wrecked and he was lost.

(Class A)

NO. II. INDIAN TYPE. SCENE, "A GOWANUS 'FLAT,' WITH ITS INDIAN CORNFIELD, AND INDIANS IN THE FOREGROUND GETTING SHELLFISH FOR FOOD AND WAMPUM MAKING." LABEL:

LONG ISLAND INDIANS.

Hudson sent men out in small boats to get fish while the "Half Moon" lay in the Lower Bay. It is supposed they landed on Coney Island. If so, Canarsie Indians first saw them. The Marechkawiecks, who inhabited Brooklyn, were of the Canarsie tribe which occupied Kings County and part of Jamaica. Other principal tribes were the Merric, Massapequa, Matinecock, Nissaquogue, Setauket, Corchaug, Manhansett, Secatogue, Patchogue, Shinnecock and Montauk, the chief of the last being Grand Sachem. Villages retaining the names mark sites of tribal council fires. Massapequas fought the only notable battle between Indians and Whites. Their fort was taken and demolished by a force under Captain John Underhill, in 1653. These tribes were of the Delaware or Lenni-Lenape branch of Algonkins and their language practically that of the New England Indians. All paid tribute to the Pequots, but after 1637 transferred this to

the English, the only reason seeming to be that of superior power. War with the Narragansetts preventing payment, the New England Commissioners pressed the demand, and in 1656, the Montauk chief visited Boston to make terms. A dramatic story is that of the Indian uprising hereabout because of the treachery of Governor Kieft, followed by a convention, held at Rechqua-aike or Rockaway, in 1643, on invitation of Penhawitz, the great Canarsie chief, at which the Dutch sued for peace. But, whatever happened, the Indians always lost in the end. November 3, 1699, the Governor of New York was acknowledged Chiefest Sachem, by the Montauk chief; by 1761 many of the tribes had disappeared; in 1783 the Montauk tribe was reduced by an emigration to Oneida County, led by the Reverend Sampson Occum, an Indian, minister of the Presbyterian church. Now (1909) but few are left. Long Island Indians were brave, good fighters—their war canoes carried eighty men. Denton says they were “extraordinary charitable one to another,” and courteous, “No man ever interrupting any person in his speech.” They were still in THE STONE AGE. They made canoes, bows and arrows, rude vessels of earth, hardened by fire, and wampum. Because of the possession of the latter they were traders, their tobacco pipes of copper coming from Michigan. Their favorite game was FOOTBALL. Fighting, hunting, fishing and wampum making were duties of men, all other tasks being performed by women. The model shows a Gowanus “flat,” with its Indian cornfield and Indians in the foreground getting shellfish for food and for wampum making.

WAMPUM OR SEAWANE.

Wampum or seawane, made of shell beads, was used by American Indians as money, for ornament and on ceremonial occasions. Long Island was “the great aboriginal mint,” its Indian name, “Seawanhacky,” meaning “Island of Shells.” Wampum was white or blue-black. According to Roger Williams it was obtained respectively from the stem of the periwinkle (meteauhaug) and the dark portion of the shell of the round clam (poquahaug); beads were formed by chip-

ping suitable pieces, drilling a hole in the center of each chip, then rubbing on a flat stone until smooth. As ornament, worn by chiefs, their wives and daughters, it was a badge of distinction and the highest evidence of wealth and power. A band or "belt" was sent with all public messages: if returned, it meant rejection of the offer. Appropriate figures were sometimes worked into wampum as record of a transaction, the confederation of the Five Nations being thus chronicled. Wampum means white, from "wompi" in the Massachusetts dialect and "wapi" in the Delaware. Originally the word was applied to white beads only, the black being "suckanhock," from "suki" or "sacki," meaning black. "Peage" was the name of the substance from which the beads were made. As white beads were most common, "wampumpeage" came to be the common name for the money among the Whites, though the Indians retained the many definitions and there were some local names. The immense quantity of wampum manufactured here was shown in the enormous heaps of split shells, once frequent, especially at Rockaway, Canarsie, Bergen Island, and Gravesend, but long ago converted into fertilizer by thrifty farmers. Winthrop's "Journal," (1634) mentions the superior wampum made by Long Island Indians. Settlers used wampum as indispensable in domestic commerce. It became so scarce that the French manufactured some of porcelain beads, but the Indians would not accept the counterfeit. Its value was a frequent subject of legislation, the Dutch early putting the price of "good splendid seawan of Manhattan," as four for a stiver. Josselyn, who visited this country in 1638, called blue-black wampum the Indian's gold and the white his silver, adding, "King Philip, on his visit to Boston, had a coat and buskin set thick with these beads in pleasant wild works and a broad belt of the same. His accoutrements were valued at £20. The English merchant giveth them 10 to a fathom for their white and as much again for their blue beads."

Specimens are shown of light and of dark wampum, each with an example of the shell from which most generally made and accompanied by special label, as follows:

WAMPUM AND SHELLS OF PERIWINKLE AND WHELK.

Wampum, made of white shell, was called the Indians' silver. Roger Williams and other early writers say it was obtained from the stem of the periwinkle, *Littorina littorea*; Mayer, that the Indians used whelk shells, *Fulgur carica* and *Sycotypus canaliculatus*; other writers mention whelk and also other shells. It is probable that the Indians took whatever shell would best serve their purpose among the snails found in their vicinity. As the periwinkle is a well-known edible snail in the British Isles, Williams and the others probably classed all snails as periwinkles. Whelks, the largest coiled shells found north of Cape Hatteras, are especially abundant off the New Jersey coast and in Long Island Sound upon gravelly or sandy bottoms, at, or below, low-tide level. They grow to be six inches long.

SUCKANHOCK AND THE SHELL OF THE ROUND CLAM.

Suckanhock, made of the dark portion of the shell of the adult round clam or Quahaug (abbreviated from the Indian name Poquahaug), was called the Indians' gold. Note how little blue-black color occurs. That is why Suckanhock was the more valuable form of Indian money.

"The Round Clam, Quahaug, or Little-neck Clam, *Venus mercenaria*, is the common hard-shelled clam of the New York market, and the fishery in the Middle Atlantic States is worth \$200,000 annually. The Indians made their purple wampum from its shell. The hard clam ranges from Yucatan to Nova Scotia, but is common only from the Carolinas to Cape Cod. It is most abundant in shallow bays or estuaries where it lives below the level of low tide."

Mayer,—“Sea-Shore Life.”

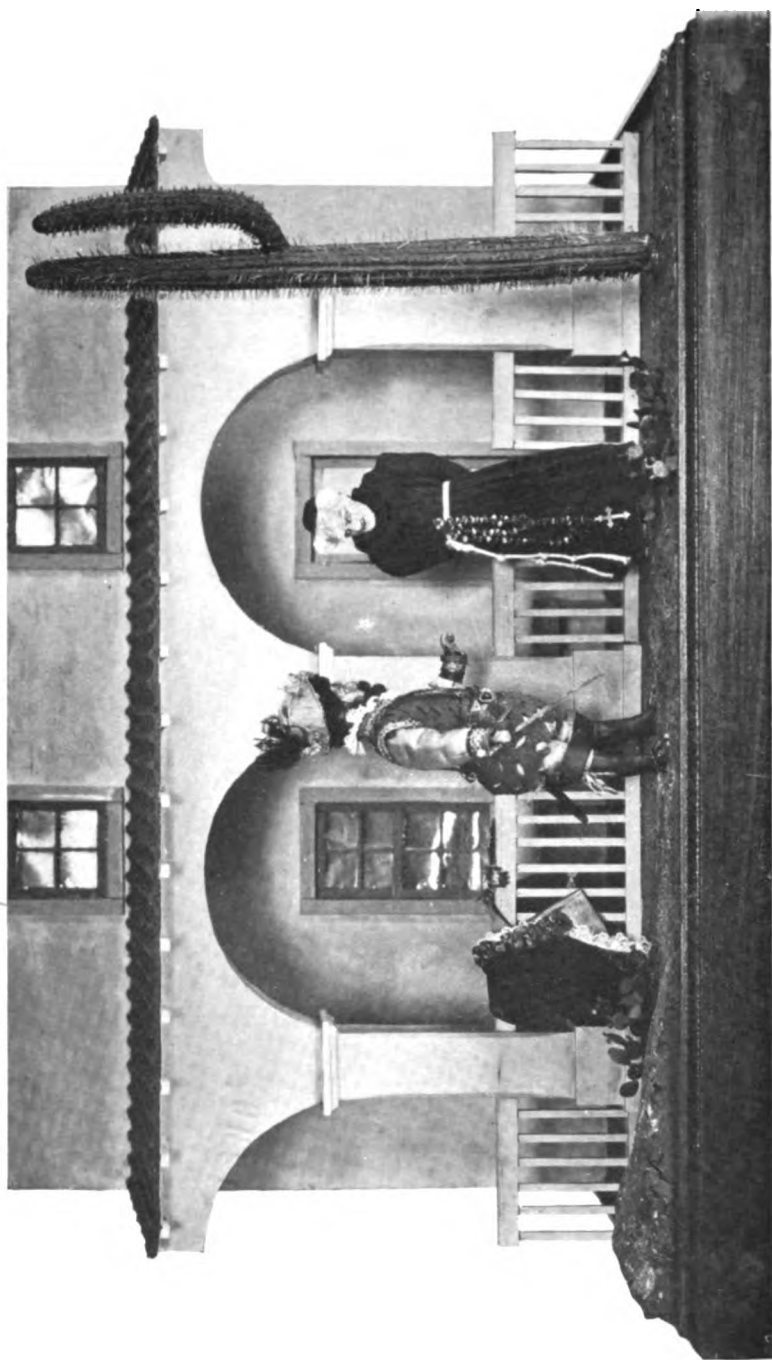
Among Long Island Indian relics are bowls and cooking utensils, ornaments, various implements for husbandry, and arrow heads. A bow with arrows (western Indian) has this label:

“The bow and arrows together with quiver and bow-case were once owned and used by an Indian chief in Kansas. They were purchased from this Indian Chief by Major McElroy, commandant at Fort Ellsworth, Kansas, in 1867-

68; and presented by him to Miss E. A. Braine, who gave them to the Children's Museum in 1901."

An Indian pipe, from Owensboro, Kentucky, is thus described:

"The earlier inhabitants of our country have left many objects of stone, clay and other materials which give us some information as to their skill in the arts. This pipe, a rare form, shows surprising cleverness in clay modelling and ornamentation. Possibly the designer of the pipe intended to represent a canoe. This pipe was taken from a cave."



PRIEST AND SOLDIER PLAN A NEW MISSION. ABOUT 1750.
For description see opposite page.

SECTION II.

SETTLEMENT AND COLONIAL PERIODS.

GENERAL LABEL.

SETTLEMENT AND COLONIAL PERIODS.

Nearly every nation of Europe was represented in the early settlers of America, but SIX GREAT TYPES formed permanent settlements here. These were from Spain, France, England, and the Netherlands.

Three came from England:—the CAVALIER, that colonized in Virginia and southward; the NEW ENGLAND, formed by the blending of the Pilgrims and the Puritans, and the “Quaker” or “Friend” that dominated Pennsylvania and adjacent sections. The Netherlanders, called the “DUTCH,” laid the foundation of our own State, with first settlements on Manhattan Island, in our own City, and first landing at Gravesend, in our own borough. Colonies of these four types settled later in each other’s territory, with consequent warfare, succeeded by friendly relations, and afterwards, by general British government.

Earliest of the types to arrive was the Spanish. They and the French settled to the south, southwest and north. Between them and the first four mentioned there was frequent fighting, until their territory was purchased by the United States.

(Class A)

NO. I. SPANISH TYPE. SCENE, “PRIEST AND SOLDIER PLAN A NEW MISSION.” LABEL:

The SPANISH came in search of fabulous wealth. After many unsuccessful attempts at settlement in various parts of this country, St. Augustine, Florida, was founded in August, 1565, by Pedro Menendez de Aviles. THIS WAS THE FIRST PERMANENT EUROPEAN SETTLEMENT IN THE UNITED STATES. The conquesta-

dores (conquerors) were horribly cruel and superstitious, after the manner of the time, but with them came the brothers of the missionary orders of the Roman Catholic church, full of zeal for the "saving of souls." So, hand in hand with the cruelty of the soldiers went the founding of missions among the Indians and many of the missionaries have left records of great kindness and piety, as well as of efficient leadership.

In California and the Southwest are still to be found some of the mission buildings erected by the priests, who were mainly of the Franciscan order. The model shows a portion of the ambulatory of such a mission, opening upon a garden. The Franciscan, a man past middle life, is listening to the plan of an ardent young SPANISH soldier for founding another mission further up the coast of California. In the gravel path, with his sword, the soldier has just drawn a plan of the possible mission and of the route to be followed to reach the spot. He is clothed in the rich costume of the military of that time with the cape and fringed gloves, which he has thrown off during his conversation with the priest.

NO. II. FRENCH TYPE. SCENE, "JESUIT ARRIVES AT MISSION STATION." LABEL:

The French were among the earliest explorers here. Jacques Cartier discovered what is now known as the Dominion of Canada, in 1535, the first permanent settlement being Quebec, founded in 1608. Prominent personages in this new town were the "factor" of the fur company (which Parkman called "The owner and sovereign lord of all Canada"), the trader among the Indians, the soldier, and the Jesuit priest. The trader and the Jesuit are most typical of the French type. Knowing the forest and the Indian, they were practically leaders in the great expeditions to the interior and south of this continent sent out under French officers.

The Jesuits ministered to the French in villages along the water courses, which were for years the only roads. There were also villages of Indian converts with whom the French lived amicably. A friendship was begun which later enabled the French to strike fearful blows upon the English settlers through their Indian allies.

A Jesuit mission was established among the Hurons who occupied what is now a portion of Simcoe County, Ontario. The name "Huron" was given by the French.

The priest was fearless in carrying religion to the Indians, establishing missions among them undeterred by the miseries of life among savages that more often than not was terminated in torture and martyrdom. It is from their "Relations" of missionary experiences sent to the superior of the order in France that we get most of our present-day knowledge of the Indian of that time and this section of North America.

Chief among the missionaries to the Hurons was Father Jogues, a courageous, refined, modest, scholarly and noble man. Captured by the Iroquois, he was brought by them from Lake St. Peter up the Richelieu River and Lake Champlain to Lake George and the Mohawk towns, being the first white man to see Lake George. He was rescued by the Dutch at Fort Orange and sent to France. Thence he returned to become a missionary to the Iroquois, and was killed by them, October 18th, 1646.

The model shows Father Jogues being rowed by one of the Huron converts toward a village hid at the edge of the wilderness. Just as the canoe rounds a point a French trader approaches through the forest and meets the missionary.

NO. III. CAVALIER TYPE ([A] BRITISH). SCENE, "THE CAVALIER COMES TO CALL." LABEL:

The CAVALIER came to found a state, and at Jamestown, Virginia, in 1607, "laid the foundation of the first permanent English colony in America." Early comers suffered hardships, but later arrivals, usually of the aristocratic class, brought retainers, servants, and ample household furnishings. The tobacco trade brought riches, and ships plying in its interests between Virginian and European ports brought back the latest modes, and life was much the same as among the wealthy in the mother-country. There was much entertaining—house-parties, balls and routs—and magnificent costumes were worn. The upper classes were well

educated, but very different ideas prevailed from those in New England. When Governor Berkely heard some one allude to the free schools in New England, he said he "thanked God there was no such things in Virginia, nor any printing press, because too much education was apt to breed a seditious spirit."

The few houses left which were erected by the settlers of this type are models of comfort. They are mainly built of red brick with broad porches, wide doors and windows, and within are halls which can easily accommodate two sets of square dances, and huge rooms each with its open fireplace. These houses were set in fine gardens and each had a stable full of thoroughbreds such as the gentleman in the model has been riding. The women were as good riders as the men. For few roads in the early days were built for carriages, though many of these were imported, and one has evidently just been driven away from the door where the lady is standing, as the mark of the wheels may be seen in the gravel.

NO. IV. DUTCH TYPE. SCENE, "INDIANS SELLING FURS
'TO DUTCH TRADER AT FORT ORANGE (ALBANY).'" LABEL:

The DUTCH came for trade in furs and through commerce effected peaceful relations with the Indians. In 1614 they built a trading-post called a fort, on Manhattan Island, which was practically their first settlement. In 1623 they had established posts as far north as Fort Orange, the present site of Albany, and as far south as Fort Nassau, near Philadelphia. With the exception of a few "Patroons" the DUTCH were mainly "middle-class people," thrifty, intelligent, and tolerant of all creeds, so that, from the beginning, people from all parts of Europe came to Manhattan, whose trading-post soon grew into the city of New Amsterdam. It is said that by 1664, eighteen languages were spoken there. Unlike the English settlements, however, the DUTCH had no representative assembly, and there was no check upon the authority of the governor except through appeal to the home government.

A Trading Post was set in the wilderness. It was composed of a few houses, at first roughly built of logs (see model), then in more shapely form. Here lived the DUTCH trader and his family and others employed in the business. They had as many of the home comforts as could be brought in the small sloop or river boat of those days. These always included swine, for the DUTCH had to have sausages. The settlement was surrounded by a strong stockade built of logs, with gates of thick timbers fastened by heavy bolts and bars. Through these, Indians were admitted a few at a time. They were glad to trade valuable furs for steel hatchets, jackknives, and cheap trinkets, though sometimes they demanded payment in their own form of money called "wampum."

NO. V. NEW ENGLAND TYPE ([B] BRITISH). SCENE, "THE MINISTER CALLS ON THE FAMILY." LABEL:

The New England, second of the English types, became distinctive late in the 17th century, when the ideas of Pilgrims and Puritans had been modified by place and circumstance and educated by that principle which immortalizes the name of Roger Williams, "The civil power has no jurisdiction over the conscience." For the Pilgrims (the pioneers of this type, who landed on Plymouth Rock, Massachusetts, in 1620) came here for "Freedom to worship God," but brought from the old country a belief in the union of state and church which led them to prosecute those whose religion differed. They were of Non-Conformist, or Congregational creed, each group of settlers forming a congregation, whose minister was an important personage in town councils and a leader of his people. The colonists were mainly of English stock, though there was a mixture of the other British nationalities. They were thrifty and prosperous, but more aggressive than the Quakers, and suffered because of frequent warfare with the Indians. Dwellers on the coast, they were a hardy, sea-going people who achieved wealth through commerce with foreign countries and inland trade at home.

Some of the comforts obtained through commerce may be observed in this scene, whose setting presents the parlor of a typical New England home about 1750, the room and

furnishings modeled from actual objects and the costumes from old paintings. The wall paper, however, "in Chinese style," then much the fashion,—is a *genuine antique* dating to about the time of the model. Elegance of finish characterizes the carved mantel, wainscot and other "trim," the "beaufet" in the corner being the favorite form of cupboard for the display of fine china and silver. The china is "Lowestoft" often called "Loffester ware" in old wills and inventories. Though bearing the name of an English town, it was made in China, and was a delicate porcelain of blue-white body with decorations in color. The mahogany furniture and mirror frames are Chippendale from England, and candlesticks and snuffers probably came from there. The tea table was known as the "pie crust table" because of its circular shape and the incut of the surrounding molding. The green chairs are the famed Windsor make. On the back of one hangs a turkey-tail feather handscreen with which My Lady protects her face when sitting before the fire. Andirons, shovel and tongs were forged by the local smith. The bellows, with its theorem painting decoration, was brought from France. The green candle was made of wax from the bayberry and gave forth delicate perfume when burning. Candles were made at home and the fine linen napkins were spun and woven by My Lady.

The scene shows an afternoon call from the minister; and the family assembled to meet him. His broadbrim hat and heavy cane have been left in the entry outside the door. Bohea tea has been brewed in his honor and sponge cake cut that is made after the recipe used in families of quality in New England, beginning: "Take the weight of ten eggs in flour." The buttonholes on the gentleman's coat have probably been the subject of much discussion between him and his tailor. In all orders sent to England for clothes, men of that time, Washington particularly, specified with much exactness their desire as to buttonholes. The tiny white ruffle in the neck of My Lady's gown is a "tucker." The name comes down to us in the saying "best bib and tucker." The son is aiding the baby daughter to walk by means of "leading strings," often beautifully embroidered by fond mothers.

No. VI. QUAKER TYPE ([c] BRITISH). SCENE, "A QUAKER 'QUILTING-BEE.'" LABEL:

The "Quakers" or "Friends," third of the English types, desiring freedom in religion, came here among early Massachusetts Colonists. Persecution from the Puritans drove them elsewhere, numerous groups finding refuge on Long Island and the mainland in this vicinity. Under William Penn, Quakers founded the independent colony of Pennsylvania, Philadelphia, its first city, being organized in 1683. Just and honorable in their treatment of all, the Quakers lived at peace with Indians and white neighbors, and prospered mightily, until "As thrifty as a Quaker" became a proverb, and the name "Quaker," first given in derision, was highly respected. The Quaker costume was adopted about 1800. Before then it differed little in cut and color from the prevailing fashion, though characterized by absence of ornaments and richness of material.

A Group of Quakers at a "Quilting-bee" is shown in the model. This was an enjoyable occasion especially when as here, a "name quilt" was made for a bride's "setting out," each square the gift of a friend and marked with that friend's name and date. Experienced hands "set up" the quilt cover. Lining and wadding were evenly stretched upon the frame and the quilting pattern drawn. Sometimes four quilts set up in a long kitchen were finished at a "bee." The stitching was done with linen thread spun upon the small wheel standing near the fireplace. At the date of this model, about 1800, there was no spool cotton. The women came early in the afternoon to sew. There was much rivalry among the girls, for she who put the last stitch in a quilt was promised an early marriage. The men came to the bountiful supper prepared over a fire of logs, cooking utensils being hung from the crane by pot-hooks and trammels, or stood on high feet over the coals. Filling the wood-box was the work of the children of the house. Cupboards over the mantel held small kitchen conveniences and always a pot of bear's grease or neat's-foot oil for softening the heavy leather shoes worn by the men.

In this scene the last quilt is nearly finished, when Friend Richard, the owner of the house, ushers in the first of the men guests, saying to his wife, the woman in gray, "Hannah! Friend John has brought thee a basket of his fine pippins. Has thee most finished thy stent? It is getting late. The other men folk will soon arrive." Hannah says, "Thank thee, John. Thee and, thy apples are most welcome! Anna, thee may take the basket. Yes, Richard. Just a few more stitches. We think Sarah will put in the last stitches. Friend Elizabeth will take my needle while I help about the supper. Until it is ready thee will have to entertain the men folk in the fore room. Tell them our bake-kettle never made better biscuit, and as for our apple-sauce and pies—!"

(Class B)

No. I. SKIRT. LABEL:

This skirt was worn at the court of James II, by Hannah Borland, the mother of Dr. J. L. Borland, Surgeon in the British Army, 1812. Dr. Borland finally settled at Somerset, Massachusetts, and this skirt was left to the only surviving heir, Joseph S. Borland, who died at the American House, Boston, Massachusetts, in June, 1870.

No. II. FOOT-STOVE. LABEL:

The foot-stove was an arrangement for keeping the feet warm in cold weather. Inside the stove is a pan for holding live coals in a bed of ashes. Ladies formerly carried foot-stoves to church in cold weather.

No. III. WARMING-PAN. LABEL:

In olden times a warming-pan containing live coals was used in winter time to warm the inside of a bed.

Nos. 4, 5, 6, 7, 8, 9, 10, Gifts of Newton H. Chittenden.

No. IV. FIRE-TONGS. LABEL:

When houses were heated by means of open fires tongs were used to help move the blazing sticks and hot coals.

No. V. LANTERNS. LABEL:

In olden times lanterns were frequently made of tin thickly perforated with holes and lighted by means of a candle held in a socket.

The tin covering was a partial protection against wind and rain, while the holes allowed the flickering candle flame to shine through and light up the pathway.

Lanterns have been also made from other substances such as horn, talc, mica, oiled fabrics, paper and glass.

No. VI. LOCK. LABEL:

Locks of various kinds have existed from very ancient days.

The Egyptians, Hebrews and Oriental nations had locks and keys of ponderous size.

The chief parts of a lock are the bolt, or part that locks, and the staple, or part into which the bolt locks when turned by the key.

Until the beginning of the last century the only lock generally employed was the "warded" lock. "Wards" are pieces of metal in the lock which fit into grooves in the key and prevent the lock from being opened except by its own proper key.

The origin of warded locks is not known, but it is undoubtedly of early date. A century ago they were considered very safe and were made in most complicated and ingenious forms.

See "Young People's Encyclopædia of Common Things," pages 443, 444; "Inventions of the Century"—Doolittle, pages 420-427.

No. VII. DOOR LATCH, FROM A CHURCH, NEW MARLBOROUGH, MASSACHUSETTS. LABEL:

This is an example of a "Thumb-latch." A lifter passing through the door raises the latch. This lifter is made to move from the outside of the door by pressing upon the broadened end of it with the thumb.

Door knobs have now taken the place of door latches in many parts of our country.

No. VIII. HAND REEL.

No. IX. WOODEN BIT-STOCK. GIFT OF JAMES LEFFINGWELL,
NEW MARLBOROUGH, MASSACHUSETTS. LABEL:

The bit-stock is a handle or brace for holding and turning a bit. The bit is a tool used for boring holes in wood.

No. X. SHEEP-SHEARS. LABEL:

Used for cutting off the wool of sheep. The blades of the shears form the two ends of a steel bow, by the elasticity of which they open as often as pressed together by the hand in cutting.

No. XI. SPINNING WHEEL. LABEL:

A machine for spinning wool, cotton, or flax into thread by hand. It consists of a wheel, band and spindle, and is driven by foot or by hand. Before the introduction of machinery there were two kinds of spinning wheels in common use; the large wheel for spinning wool and cotton, and the small or Saxon wheel for spinning flax.

No. XII. FIRE BUCKET. LABEL:

From the days of Washington until the beginning of the 19th century, the law required every householder to be a fireman and to own at least one leathern fire bucket inscribed with his name.

When the church bells rang the alarm of fire each man seized his bucket and set off for the fire. Some joined the line that stretched away to the water, and helped to pass the full buckets to those who stood by the fire. Others took posts in a second line, down which the empty buckets were hastened to the pump. The house would often be half consumed when the shouting made known that the engine had come.

For picture of fire engine of 1800 see "School History of U. S.," McMaster—page 181.

No. XIII. SICKLE. LABEL:

An instrument used for cutting grass, grain, or weeds. Some sickles have the inner edge toothed like a saw, others have a smooth blade.

In reaping, the harvester takes as much of the grain as he can hold in the left hand, and then cuts off the stalks as close to the ground as possible with the sickle which is held in the right hand. When a sufficient quantity of grain has been cut it is tied up by means of a band of twisted straw and made into a sheaf.

The sickle is the oldest of reaping instruments and is still used to gather crops in certain localities.

The Romans used it not only as a farmer's tool, but also as a weapon of war.

(Class C)

- NO. I. HARLOW HOUSE, PLYMOUTH, MASSACHUSETTS,
BUILT 1660.
- NO. II. STANDISH HOUSE, DUXBURY, MASSACHUSETTS,
BUILT BY ALEXANDER STANDISH, SON OF CAP-
TAIN MYLES STANDISH.
- NO. III. ALDEN HOUSE, DUXBURY, MASSACHUSETTS, HOME
OF JOHN AND PRISCILLA (MULLIN) ALDEN. A
DESCENDANT OF THE EIGHTH GENERATION IS
STANDING IN THE YARD.
- NO. IV. PHOTOGRAPHS (3) OF HISTORICAL TYPE ROOMS IN
THE ESSEX INSTITUTE, SALEM, MASSACHU-
SETTS. GIFT OF GEORGE FRANCIS DOW.
- NO. V. BENJAMIN FRANKLIN (FUR COLLAR PORTRAIT)
FROM PAINTING BY J. S. DUPLESSIS (A FRENCH
ARTIST), NOW IN THE PHILADELPHIA ACADEMY
OF FINE ARTS. ENGRAVED BY W. F. BATHER.
GIFT OF W. F. BATHER.
- NO. VI. "LADY WASHINGTON'S RECEPTION," BY D. HUNT-
INGTON, P. N. A. (AN AMERICAN ARTIST),
WITH KEY.



MYLES STANDISH. ABOUT 1622.
For description see page 46.

SECTION III.

THE SIX WARS.

Section III is placed in wall cases, or hung (pictures) upon the wall, grouped in chronological order.

GENERAL LABEL.

THE SIX WARS.

The people of the United States have engaged in SIX WARS. As Colonists we fought the FRENCH AND INDIAN (1689-1760), a long and brutal series of fights between British and French colonists and their Indian allies, arising from questions of boundary rights. In the REVOLUTION (1775-1781) we separated ourselves from Great Britain and became THE UNITED STATES OF AMERICA. The WAR OF 1812 (1812-1815) forced Great Britain to abandon a so-called "Right of Search" of our vessels and to remove restrictions against our commerce. The MEXICAN WAR (1846-1848) arose from another boundary question—between the United States and Mexico. The CIVIL WAR (1861-1865) involved the question of "State Rights" in form of "The Slavery Question." The SPANISH WAR (1898) was undertaken in defense of the application of the Monroe Doctrine to conditions prevailing in Cuba.

In addition, our army has distinguished itself in Indian fighting, and our navy in suppression of piracy and in the Boxer Outbreak in China. "Both arms of the service" have made and are making records that thrill us because of the bravery, efficiency and nobility of character manifested in them.

Though our history tells of so many fierce conflicts, the spirit of our people is peaceful. Our influence has been for the promotion of peace. Edward Everett Hale speaks for the most of us in saying, when telling of the justice of our war with Spain, "This Nation never wishes to make war. Our whole policy is a policy of peace, and peace is the pro-

tection of the * * * civilization to which we are pledged."

Case No. I contains pictures of the Presidents, a series representing the history of the flag, and models of our fighting men and their environment at critical periods. There are three general labels in this case.

No. I. ARMY AND NAVY (large over label).

"The reason the world honors the soldier is because he holds his life at the service of the state."—Ruskin.

"Every history of our navy claims attention first of all as a hero story."—Spears.

No. II. ARMY AND NAVY.

Military organizations, many of them still in existence, formed the nucleus of the NATIONAL ARMY, created by the Continental Congress, June 15, 1776, with George Washington, of Virginia, then 43 years old, as Major-General and Commander-in-Chief. He took command on July 3, the day before the DECLARATION OF INDEPENDENCE was adopted. This declaration changed the name of The United Colonies of America, to THE UNITED STATES OF AMERICA. "The first stroke afloat for American liberty" was the destruction of the British war schooner, "Gaspé," near Providence, Rhode Island, June 10, 1772. The first NAVY ships were 13 frigates, ordered December 13, 1775, and on December 22 of that year, Esek Hopkins, of Rhode Island, was commissioned as Commander-in-Chief of the Fleet. He was called Commodore, or sometimes Admiral. After the Revolution both army and navy were virtually disbanded, though a thousand troops were retained. The present United States Navy dates from an act of Congress, April 30, 1798, establishing a Navy Department. By Article II, Section 2, of the CONSTITUTION, which went into operation on March 4, 1789, the PRESIDENT was made COMMANDER-IN-CHIEF of the ARMY and NAVY.

No. III. (Without headline.)

"No matter what happens to you, no matter who flatters you or who abuses you, never look at another flag, never let a night pass but that you pray God to bless that flag. Re-

member * * * that behind all these men you have to do with, behind officers, and government, and people even, there is the Country herself, your country, and that you belong to Her as you belong to your own mother. Stand by Her as you would stand by your mother.”—Edward Everett Hale, “The Man Without A Country.”

Cabinet size photographs of the Presidents, mounted on framed labels which announce in condensed form the important events of each administration, are placed in line across the top of the case, with base label, in large type, “THE PRESIDENT IS THE COMMANDER-IN-CHIEF OF THE ARMY AND NAVY.” The label accompanying the picture of George Washington is presented as an example of the presidential series, although it is two lines longer than the others:

GEORGE WASHINGTON (I)

Two Terms: 1789-1797.

Chief Events.

Creation of Departments of State, Treasury, War, Attorney-General (Justice). Money matters put on firm basis. Admission of Vermont, Kentucky and Tennessee. 1st 10 Amendments to Constitution. Invention of cotton-gin. Seat of government removed from New York to Philadelphia.

Beneath the photographs is a line series showing the history of our flag in pictures and miniature flags. This exhibit is unfinished.

Models will complete this case. Subjects selected for presentation are: “Myles Standish, the First Commissioned Military Officer in New England”; “A Frontiersman, Ambushed, Shooting an Indian,” as typifying the French and Indian Wars; “Meeting of Washington and John Paul Jones at Headquarters, Cambridge, Massachusetts” (The Revolution); “The Dey Signing the Treaty” (Naval Wars with France and the Barbary States); “The Deck of the ‘Constitution’” when in battle (War of 1812); “Storming of Palo Alto,” showing field artillery (Mexican War); “Cavalry in the Western Mountains” (Indian Wars); “Council of War” (Civil War); “On Board the Olympia at Manilla” (Spanish

War). Of these the first three have been finished. Their labels are:

MYLES STANDISH.

"The first commissioned military officer in New England," was small of stature but of fiery temper and spirit. Born in England about 1584, he was with the army in Flanders, became captain, and when about 36 years old, came here with the Pilgrims, and for the remainder of his life had charge of the military affairs of the colony, never having more than 16 men under his command and often but 10. He subdued and then made friends with the Indians, explored the country about Plymouth, and acted as treasurer and magistrate. When he died, at Duxbury, Mass., October 3, 1656, the hamlet of 7 huts which he had helped to build had increased to 8 towns with a population of 8,000, a common-school system was established, and Harvard University founded.

In the model's background is seen the fort and first meeting house, on Burial Hill, Plymouth. On the roof are mounted "Minion" and 3 other small cannon from the "Mayflower." Standish's costume is that worn by the English captain of the period.

FRENCH AND INDIAN WARS, 1689-1769.

Questions of boundary rights brought on a series of brutal wars between the English and French on this continent. They were called by different names, as, KING WILLIAM'S WAR (1689), QUEEN ANNE'S WAR (1702), KING GEORGE'S WAR (1774), "THE OLD FRENCH WAR" (1755) and PONTIAC'S WAR (1763). The Iroquois were allies of the English and the Algonkins of the French. Algonkins struck the first blow of the first war at Dover, N. H., when for the first time English captives were sold to the French. War closed by treaty with the Indians at Pejepscot, Maine, after all but 3 of the Maine settlements were destroyed. The second war involved South Carolina and New England, increasing English territory at the South. It was closed by the PEACE OF UTRECHT (1713), which surrendered

Acadia to England. The principal event of the third war was the capture of Louisburg, which was returned to France by the TREATY OF AIX LA CHAPELLE (1749). These treaties did not define English and French boundaries in America and the Indian was entirely overlooked. "You and the French," said one to an Englishman, "are like the two edges of a pair of shears, and we are the cloth which is cut to pieces between them." To gain Indian trade and induce English settlement, the OHIO COMPANY was formed in 1749. The French then fortified Presque Isle (Erie, Pa.). In 1749, Governor Dinwiddie, of Virginia, sent a message demanding their removal from English soil, by his adjutant-general, GEORGE WASHINGTON, age 21 years. In 1754 the French built Fort Duquesne (Pittsburg) and occupied the entire Mississippi valley. In the following (fourth) war occurred "Braddock's Defeat," the expulsion of the neutral French from Acadia, great battles in northern New York, Quebec and Montreal (1760), after which Canada and its dependencies was surrendered to the British. The last war involved gallant fighting on the lakes as well as on land.

An English frontiersman is chosen as typical of this stormy period. He wears the usual hunting costume—an old felt hat turned up at one side, deer-skin hunting shirt, trowsers and leggings; cartouche-box, canteen, hunting-knife, and flintlock gun. Sometimes the shirt was of heavy linen. This was the uniform chosen by the 11th Virginia Riflemen at the beginning of the Revolution, and, on advice of WASHINGTON, was that first adopted for the army, the linen hunting shirt being "steeped in a dye vat until it was the color of a dead leaf."

THE REVOLUTION, 1775-1781.

Various acts of oppression, including the STAMP ACT, the TAX ON TEA, and the BOSTON PORT BILL, led the Colonists to revolt from British rule. Beginning with RESISTANCE to the GENERAL SEARCH WARRANT, in 1761, the history of the REVOLUTION may be divided into four periods. The first culminates in "The Boston Tea-party," December 16, 1773. The second opens in June, 1774,

when Massachusetts began to nullify the acts of Parliament of April, that year, and closes with the DECLARATION OF INDEPENDENCE, July 4, 1776. The third covers the struggle for the State of New York, and closes in the SURRENDER OF BURGOYNE, at Saratoga, October 17, 1777. In the fourth, France sends aid, CORNWALLIS SURRENDERS at Yorktown, Virginia, and by treaty, signed at Paris, France, September 3, 1783, GREAT BRITAIN ACKNOWLEDGES THE INDEPENDENCE OF THE UNITED STATES.

From its outbreak, April 19, 1776 (the Battle of Lexington), to the virtual disbanding of the army, April 19, 1783, the Revolution lasted eight years, to a day.

Our ARMY and NAVY were created at the beginning of this war by the CONTINENTAL CONGRESS, with George Washington, of Virginia, as Commander-in-Chief of the one, and Esek Hopkins, of Rhode Island (1775), as Commander-in-Chief of the other. The model presents the meeting of Washington and John Paul Jones at Headquarters, in the old Vassall House, at Cambridge, Massachusetts, in 1776. The Aide-de-camp is John Trumbull, of Connecticut, a son of "Brother Jonathan," and afterwards the famous historical painter. Washington and Jones are modeled from the C. W. Peale portraits, and Trumbull from a portrait which he painted from his reflection in a mirror. Washington is costumed as he appeared when taking command at Cambridge. There was political significance in the blue and buff. Worn by the soldiers of William of Orange when they invaded Ireland in 1689, this Holland insignia became that of the English Whigs, who were the champions for Constitutional Liberty, and was adopted by the American Whigs. It was worn by soldiers of the New York and New Jersey "line," therefore by members of the regiment made up of Long Island Militia which fought under Gen. Nathaniel Woodhull at the Battle of Long Island. Blue, red or white, in facings and "underclothes" was used to distinguish troops from other sections. The Naval uniform was adopted September 5, 1776.

Case No. 2 contains military and naval objects and several pictures of Fortress Monroe that show heavy artillery.

(Class B)

French and Indian Wars, 1689-1760.

NO. I. FLINT-LOCK MUSKET. GIFT OF HANNAH E. WINTERS. LABELS:

Brought to America about the year 1690, and supposed to have been used in the Revolutionary War and War of 1812.

THE FLINT-LOCK.

In olden times all kinds of guns and pistols had flint-locks made of a flint fastened tightly in the hammer and a piece of steel on which it struck fire when the trigger was pulled. The sparks were caught in some gunpowder in a little hollow iron pan on the side of the gun barrel, into which the touch-hole opened and the powder inside the barrel was thus fired.

Flint-lock muskets are supposed to have been of Spanish origin. In one form or another they remained in use in the British Army till 1840.

NO. II. FLINT. LABEL:

A kind of quartz rock which may easily be split into pieces having very sharp edges. For this reason it was much prized by the Indians who made knives, axes, spear-heads and arrow-heads out of it.

Before lucifer matches were known a piece of flint and steel were used to strike fire, the spark being caught in tinder and blown into a blaze.

Also used for striking fire in flint-lock muskets and pistols.

NO. III. POWDER-HORN.

Revolution, 1775-1781.

NO. IV. HOLSTERS. LABEL:

These are leathern cases for holding pistols. Horsemen or cavalymen formerly carried holsters attached to the sad-

dle, one on each side of the pommel. Occasionally they are still carried in this way, but they are more commonly worn on the belt.

These holsters, which will carry pistols a foot and a half long, were found at the time of the destruction of the Snediker homestead, which was situated on the Jamaica Plank-Road. This house was two hundred and fifty years old and was supposed to be the oldest house on Long Island.

No. V. SWORD. GIFT OF RICHARD B. HARNED, JR. LABEL:

This sword was found by Mr. Harned in Curry's Woods, Greenville, Hudson County, New Jersey, in 1875. It was thrust into the ground, the hilt only showing.

No. VI. PIECE OF OAK BEAM. FROM WASHINGTON'S HEADQUARTERS, FRANKLIN SQUARE, MANHATTAN BOROUGH, NEW YORK.

War of 1812. 1812-1815.

**No. VII. WOOD FROM PERRY'S FLAGSHIP, "LAWRENCE."
GIFT OF C. F. LAURIE.**

**No. VIII. SPIKE FROM PERRY'S FLAGSHIP, "LAWRENCE."
GIFT OF C. F. LAURIE.**

**No. IX. PIECE OF OAK BEAM FROM BRITISH FRIGATE
"MACEDONIAN." GIFT OF COL. WILLIAM C.
BOOTH. LABEL:**

This piece of English Oak was a part of the Rudder-Post of the British Frigate "Macedonian," Captain John Garden, which surrendered after a four-hour engagement with the United States ship, "United States," Captain Stephen Decatur, October 25, 1812. The "Macedonian" was broken up in the Norfolk, Virginia, Navy Yard, in 1833, by order of the Secretary of the Navy, Mahlon Dickinson.

Mexican War, 1846-1848.

No. X. SABRE.

1850.

No. XI. NAVAL CUTLASS. GIFT OF SERGEANT DAVID ARVENUS. LABEL:

This Cutlass, marked C. Jurmann, 1850, was found under an old carpenter shop in Glendale, Long Island, in 1884, by Sergeant Arvenus.

Civil War, 1861-1865.

(Class A)

No. I. MODEL OF THE FIRST MONITOR. LABEL:

The Monitor was the first successful iron clad in the history of the United States Navy. It was built at Greenpoint, Long Island, under the direction of John Ericson, was launched on January 30th, 1862, and on March 6th, 1862, under the command of Lieutenant John L. Worden, started for Hampton Roads, Va., where it arrived on the night of March 8th. On Sunday, the Monitor engaged the confederate iron clad Merrimac in an indecisive battle lasting several hours, the Merrimac finally withdrawing up the Elizabeth River. This engagement was one of the most important in the naval history of the world, proving the value of armored vessels, and the relative uselessness of the old style wooden warships. On December 31st, 1862, the Monitor sank in a gale while on her way to Beaufort, North Carolina.

(Class B)

No. XII. JOHN BROWN'S PIKE. GIFT OF WILLIAM A. M. GRIER. LABEL:

Pike made by the followers of JOHN BROWN. Used by him in his raid on Harper's Ferry, October 10, 1859.

No. XIII. CANTEEN, MARKED "I, 3' ART'Y, 13."

No. XIV. FALCHION SABRE, COMMONLY CALLED "ARTILLERY SWORD," WITH (A) SHEATH AND (B) BELT. (FEDERAL.)

No. XV. ARTILLERY SABRE. (CONFEDERATE.)

No. XVI. BOARDING CUTLASS. (MAN-O'-WAR.)

No. XVII. SWORD AND (A) BELT.

No. XVIII. RIFLE OF THE SPRINGFIELD PATTERN. GIFT OF
LIEUTENANT JAMES A. BILLS, SEPTEMBER 17,
1865. LABEL:

This rifle was carried by one of the members of the 139th
Regiment, New York Volunteers, Infantry, when that regi-
ment entered Richmond, Virginia, on the morning of April
3rd, 1865.

Richmond, Virginia, was the capital of the Confederate
States of America, during the War of the Rebellion, from
1861-1865.

The 139th Regiment, New York Volunteers, was the first
regiment that entered Richmond, Virginia, after its evacua-
tion by the Confederates during the night of April 2nd, 1865.

No. XIX. BULLETS FROM SPRINGFIELD RIFLE, DUG OUT OF
A TREE AT GETTYSBURG IN 1867.

No. XX. SPRINGFIELD MUSKET BAYONET, GIFT OF CAPTAIN
DAVID PETTY. BAYONET SHEATH, GIFT OF
JOHN C. ATWATER, JR.

BAYONET.

The bayonet, named from Bayonne, France, where bayo-
nets are said to have been first made about 1640, is a steel
pike or sword which can be fastened on the end of a gun.
There are several kinds of bayonets, such as

1. The Common Bayonet, or straight three-cornered pike
2. The Sword Bayonet.
3. The Trowel Bayonet.

The trowel bayonet is still used for digging trenches and
pits for the protection of riflemen.

No. XXI. CARBINE, No. 19332. GIFT OF LIEUTENANT
DAVID F. BEALE. LABEL:

This Carbine was made by the C. Sharp's Rifle Manufacturing Company, Hartford, Connecticut. It was found on the battlefield of Williamsburg, Virginia.

NO. XXII. UNITED STATES ARTILLERY CARBINE. GENERAL LABEL, THE CARBINE.

The carbine is a short rifle especially adapted to mounted troops.

All rifles have little channels or grooves cut on the inside of the barrel. These grooves do not run straight from one end of the barrel to the other, but twist around the barrel, usually once in its length. When the gun is fired the ball must follow the grooves in passing out of the barrel, and this gives it a twist which makes it turn around very fast after leaving the barrel, and always in the same way on the principle of a spinning top.

The old kinds of guns had smooth bores. These would not shoot a ball very far nor very straight, and in time it was found out that guns could be made to shoot truer and farther if the barrels were grooved.

Both small arms and cannon are now grooved or rifled. The rifling of small arms has been done for over three hundred years, but rifles did not take the place of muskets till late years.

(Class C)

THREE PICTURES OF FORTRESS MONROE, SHOWING (A) EXTERIOR AND (B) INTERIOR VIEWS AND (C) TROPHY GUNS.

Spanish War, 1898.

NO. XXIII. SPANISH MACHETE. LABEL:

The "machete" is a large, heavy knife resembling a broadsword and is often two or three feet in length.

It is used by the inhabitants of Spanish-America as a hatchet with which to cut their way through thickets, and is also used as a weapon in fighting.

Made by Warden & Hotchkiss, Birmingham. It was purchased in New York by David H. Wintress, the blind

veteran of Company G, 139th Regiment, New York Volunteers Infantry, June 19th, 1885.

NO. XXIV. 10-POUND SHELL, FROM THE UNITED STATES ARSENAL AT IONA ISLAND. GIFT OF K. THURWOSKE.

(Class C)

ARMY.

French and Indian Wars, 1689-1760.

NO. I. FALL OF BRADDOCK.

NO. II. WASHINGTON RAISING THE BRITISH FLAG AT FORT DUQUESNE (PITTSBURG).

NO. III. WOLF'S INTERVIEW WITH PITT BEFORE HIS DEPARTURE FOR CANADA.

Revolution, 1775-1781.

(Concord, Massachusetts.)

NO. IV. THE OLD ADAMS HOUSES. LABEL:

These houses are still standing in Quincy, Massachusetts, which town is sometimes referred to as "Where Independence Began." The house on the right was the home of John Adams, the great advocate of independence and second president of the United States. The house on the left is the home of John Quincy Adams, son of John Adams, and often called the Puritan President.

NO. V. UNITARIAN CHURCH. LABEL:

The meeting house of the First Parish of Concord was built 1712. On October 11th, 1774, the Provincial Congress first met in the Church and organized with John Hancock as president, and Benjamin Lincoln as secretary, and by its measures prepared the way for the war of the Revolution and American Independence. In 1841 the building was turned partly around and remodelled as shown in the picture. It was entirely destroyed by fire April 12th, 1900.

No. VI. THE OLD HUNT HOUSE. LABEL:

This house is situated on Punkatawsett Hill in Concord, Massachusetts. It was the one where the Americans were supplied with food previous to their marching down that hill to defend the bridge.

No. VII. THE OLD NORTH BRIDGE. LABEL:

Where was fired "The shot heard around the world."

No. VIII. THE STRUGGLE ON CONCORD BRIDGE.

No. IX. MERRIAM'S CORNER. LABEL:

Here after their severe repulse from the old North Bridge, the British, on their hurried march to Boston, were severely attacked by the Americans. From here all the way down the Lexington road the British were fired upon from behind stone walls and trees.

No. X. THE JONES HOUSE. LABEL:

This was built long before the Revolution, and is one of the oldest houses in Concord, Massachusetts; it is now occupied by Judge Keyes. In the ell part of the building a bullet hole is plainly visible which was probably made by a British bullet.

No. XI. THE OLD MANSE. LABEL:

Where Emerson wrote his first book of essays, "Nature," also several of his poems. Here Hawthorne wrote "Mosses from an Old Manse." From a window in the back of the house, the Rev. William Emerson witnessed the firing by the British troops, also that by the Americans which drove the British away from the old North Bridge.

No. XII. COLONEL JAMES BARRETT'S HOUSE. LABEL:

This is where the stores of guns and ammunition were kept which the British were sent to Concord to destroy.

No. XIII. ANTIQUARIAN HOUSE. LABEL:

Residence of Captain Reuben Brown, 1775. Now used as a museum for revolutionary relics.

(Cambridge, Massachusetts.)

NO. XIV. THE VASSALL HOUSE. LABEL:

Few private houses in New England have so much historic interest as this. It was built in 1757 by Colonel John Vassall, a Loyalist, who fled to England in 1775, his property in Cambridge and Boston having been confiscated. Its next occupant was Colonel John Glover, "a bold little Marblehead soldier," who quartered some of his troops there. When Washington rode into Cambridge on Sunday, June 2, 1775, he saw and liked the old house, but found it very dirty. He had it cleaned and established himself there, taking the south-east room on the first floor for his study and council room, the room overhead for his sleeping room, and that back of his study for his "Military Family" or Staff. He kept up a certain amount of official splendor, but maintained this sort of a court at his own expense. Colonel John Trumbull, his Aide-de-camp, complained that he "could not keep up in such magnificent society." Mrs. Washington came in December, 1775, and remained until Washington left in April, 1776. Owners of the house after the Revolution were Nathaniel Tracy, whom Washington visited for an hour in 1789; Thomas Russell, and Dr. Andrew Cragie. Talleyrand and Lafayette slept in it; Jared Sparks began housekeeping there; Everett and Worcester the lexicographer occupied it for a time, and Longfellow rented Washington's sleeping room in 1837. Here he wrote "Hyperion" and "Voices of the Night." He very soon bought the house, which is now (1909) occupied by his daughter.

(King's Mountain, South Carolina.)

NO. XV. DEATH OF MAJOR FERGUSON AT KING'S MOUNTAIN.

NO. XVI. GEORGE WASHINGTON. GIFT OF W. E. BATHER.
STEEL ENGRAVING, BY W. E. BATHER, OF
STUART'S WASHINGTON, WITH REMARK OF
"WASHINGTON CROSSING THE DELAWARE,"
AFTER LEUTZE'S PICTURE.



INDIANS SELLING FURS TO DUTCH TRADER AT FORT ORANGE. 1623.
For description see page 34.



THE CAVALIER COMES TO CALL. ABOUT 1640.
For description see page 33.

NO. XVII. WASHINGTON AND HIS GENERALS. BY A. H. RITCHIE. WITH KEY.

NO. XVIII. WASHINGTON'S FAREWELL TO HIS ARMY. BY A. C. GOW, R. A. WITH KEY.

General label with the Washington pictures :

COSTUMES in the TIME of WASHINGTON.

In all classes of society there was more formality than now and the display of elegant costumes was much greater.

Ladies wore beautiful silks and brocades ; their hair was dressed with powder and pomatum, and often built up to a great height above the head. Hair-dressers were kept so busy on the day of any fashionable entertainment, that ladies had to employ their services at four or five in the morning, and had to sit upright all the rest of the day in order to avoid disturbing the head-dress.

"If a gentleman went abroad he appeared in his wig, white stock, white satin embroidered vest, black satin small clothes with white silk stockings, and fine broadcloth or velvet coat."

Balls were sometimes given on a very large scale, especially by foreign ambassadors. Ladies and gentlemen went to balls in sedan-chairs carried by men, and guests were expected to arrive between seven and eight.

The dances were chiefly minuets and contra-dances.

From "Young Folks History of the United States," pages 223-224.

War of 1812—Indian Wars.

(Ohio.)

NO. XIX. GEN. HARRISON AND TECUMSEH.

NO. XX. TECUMSEH SAVING THE LIFE OF PRISONERS.

(Alabama.)

NO. XXI. INTERVIEW BETWEEN GEN. JACKSON AND WEATHERFORD.

Mexican War, 1846-1848.

(California.)

No. XXII. FREMONT RAISING THE UNITED STATES FLAG,
MAY 13, 1846.

(Class C)

NAVY.

1805.

No. XXIII. UNITED STATES FRIGATE "CONSTITUTION,"*
RIDING AT ANCHOR DURING A GALE IN THE
HARBOR OF MARSEILLES, 1805. LABEL:

This picture is a copy of a painting by Etienne Roux, a French painter of the sea-going craft of his time, and famous for his accuracy aside from his skill as a painter. It is believed that this picture by Roux is a careful study of the ship during her early days, and a true picture of the "Constitution" when in charge of Preble during his Mediterranean operations against the Tangier pirates.

The commander of a fleet in those days "flew his broad pennant of 15 stars at the mainmast head," as shown in the pictures.

The figure head is that of a woman and child, the original head with which the "Constitution" was furnished having been knocked off by a round shot.

This copy of Roux's painting was made by Mr. Edward J. Russell, of Dorchester, Massachusetts.

This series, from No. 24 to 47, inclusive, is not labeled, though all have the same name card. The pictures are mainly colored prints. There are a few engravings and woodcuts of good quality.

*Doubt has been recently cast on the claim of some students that Roux's picture represents the "Constitution." If not the "Constitution," it is probably a picture of her sister ship, the "President," which is known to have been in Mediterranean waters at that time. In any case, the uncertainty as to the exact subject of the picture detracts nothing from its historic interest, for the two sister ships resembled each other very closely and either vessel is a good example of the best warship used in the United States Navy of that period.

- No. XXIV. FRIGATE "CONSTITUTION" AND THE "KEARSARGE."
- No. XXV. ACTION BETWEEN THE "CONSTITUTION" AND THE "GUERRIÈRE."
- No. XXVI. FRIGATE "CONSTELLATION," COMPANION TO THE "CONSTITUTION"; CORVETTE "SARATOGA," THE "PORTSMOUTH" AND THE "BANCROFT."
- No. XXVII. "NEW HAMPSHIRE" AND "DOLPHIN."
- No. XXVIII. "PENNSYLVANIA," "SOUTH CAROLINA" AND "HORNET."
- No. XXIX. "CHARLESTON" AND "SAN FRANCISCO."
- No. XXX. "BOSTON" AND "BALTIMORE."
- No. XXXI. "KEARSARGE" UNDER FULL SAIL, WITH (A) COPY OF THE LOG OF THE VESSEL THE DAY SHE SUNK THE "ALABAMA" OFF CHERBOURG, FRANCE.
- No. XXXII. "PHILADELPHIA" AND "VESUVIUS."
- No. XXXIII. "DISPATCH," "ATLANTIC" AND "YANKTON."
- No. XXXIV. NAVAL REVIEW, 1893.
- No. XXXV. "OREGON," "MONTEREY" AND "DETROIT."
- No. XXXVI. "AMPHITRITE," "PURITAN" AND "MONTGOMERY."
- No. XXXVII. "NEWARK" AND "MIANTONOMAH."
- No. XXXVIII. "IOWA," "BENNINGTON" AND "KATAHDIN."
- No. XXXIX. "CONCORD," "STILLETTO" AND "COLUMBIA."
- No. XL. "CHICAGO" AND "BOSTON."

No. XLI. "CINCINNATI," "TERROR" AND "INDIANA."

No. XLII. "MASSACHUSETTS."

No. XLIII. "TEXAS," "OLYMPIA," AND "MINNEAPOLIS."

No. XLIV. "NEW YORK."

No. XLV. "BROOKLYN."

No. XLVI. "RALEIGH," "CASTINE" AND "MAINE."

No. XLVII. "PETREL" AND "VESUVIUS."

A collection to show types of United States money, with related series of Continental and Confederate money, is in process of installation. Some of the types are well represented, while others are yet conspicuous by their absence. There is a large and valuable collection of copper tokens in use during the Civil War, the gift of the Misses Huldah M. C. and Frances Louisa Bond, in memory of their father, George R. Bond, M. D., who got the coins together and mounted them, incorporating pictures of the Presidents, arms of the states, noted men, Federal and Confederate, flags, allegorical pictures, printed information, etc., in the mounting. This collection occupies two large frames surmounted by an eagle clasping in its claws American flags, arrows and a laurel branch. With exception of name-cards the only label in this collection at present is the following:

CONTINENTAL MONEY.

In 1775 when Congress was called upon to conduct the War of the Revolution it had nothing with which to pay expenses and was forced to issue Continental "bills of credit." These were rudely engraved bits of paper stating that the bearer was entitled to a certain number of Spanish milled dollars, or the value thereof in gold or silver.

They were issued in sums of various denominations from one-sixth of a dollar up and were to be redeemed by the states.

The value of these bills fell so rapidly that in 1780 they became worthless. It took \$150. in Continental currency to buy a bushel of corn, and an ordinary suit of clothes cost \$2,000.

It is probable that during the war more damage was done by paper currency than by all other causes put together.

See "History of the United States"—John Fiske, pages 235-236; "History of the United States"—McMaster, pages 198-200.

SECTION IV.

NEW YORK STATE AND CITY.

GENERAL LABEL.

NEW YORK STATE AND CITY.

VERRAZZANO, commanding the "Dolphin," under commission from Francis I, of France, was probably the first European to sail into the bay of New York. He came in 1524, and is supposed to have landed at the Battery, planting there a large wooden cross, and claiming the country in the name of his king. He was followed by GOMEZ, in 1625, who sailed under commission from Charles V, of Spain. The next of whom we have record is HUDSON, commanding the "Half Moon," under commission from the Dutch East India Company. He discovered Manhattan Island on September 6, 1609, and is called "THE DISCOVERER," because he was that in the true sense of the word. To him the nations were chiefly indebted for their knowledge of the stream. The earliest use of his name for the river appears in an Amsterdam publication of 1612. BLOCK, the Dutch navigator, visited Manhattan Island in 1611. Reports of many fur-bearing animals induced Amsterdam merchants to form a trading company which was chartered by the States General of Holland and given exclusive privilege of trade in the NEW NETHERLANDS, then first mentioned as such, for three years, beginning January 1, 1615. This company built a trading house and fort (see Dutch Trader type model) near the present site of Albany and another on Manhattan Island. The WEST INDIA COMPANY (Dutch), chartered June 3, 1621, was, however, the real founder of the city and province, whose first director was MINUIT (1624-1632), who bought Manhattan Island (22,000 acres) of the Indians, for \$24 in merchandise, the bargain being made on May 6, 1626, the parties to it meeting at the Battery. A fort and a storehouse and mill built of native stone, were first erected;

the church was organized, slaves were brought here, and the Patroons (see Brooklyn model) were established. VAN TWILLER (1632-1638) finished the fort—Fort Amsterdam—at a cost of \$1,688; the first school-master arrived and the first church was built. Kieft (1638-1647) was not a good ruler and brought on Indian war, but he improved the village of Manhattan, straightened the streets and enacted laws for keeping them in better sanitary condition. Under STUYVESANT (1647-1664) the first lawyer began practice, a city charter was granted, palisades were put along Wall Street as defense against the English, and the city surveyed (1656). It had 17 streets, 120 houses and 1,000 inhabitants. The average price of city lots was \$50 and the average rent \$14 a year. August 25, 1664, the city was taken by the English, who shortly established jury trials. In 1673 it was retaken by the Dutch, and in 1674 it was receded to the English, the New Netherlands being exchanged for Surinam, which the Dutch still (1909) hold.

(Class C)

(City, Manhattan Borough.)

No. I. FRAUNCES' TAVERN.

No. II. NEW YORK (FROM AN OLD PRINT).

No. III. OLD SAINT PAUL'S CHURCH AND YARD, AND THEIR
MODERN NEIGHBORS.

No. IV. MIDDLE DUTCH CHURCH, IN 1751.

No. V. VIEW OF HAERLEM, 1765 (FROM AN OLD PRINT).

(State.)

No. VI. OLD SENATE HOUSE, AT KINGSTON. LABEL:

In this the Senate was held at the time of the Revolution. It was built in 1676 by Wessel Ten Broesk. It is the oldest house in Kingston and was sold to the State of New York in 1887 to be preserved as a relic.

No. VII. HUGUENOT HOUSE, AT NEW PALTZ. LABEL:

This house was built in 1712 and bears that date. In 1899 it was purchased by the Huguenot Memorial Society and became a storehouse for relics and old documents, being known as "The Memorial House."

No. VIII. OLD DUTCH HOUSE, NEAR MONTGOMERY,
ORANGE COUNTY. LABEL:

This house was built by Henderyokns Van Kemen in 1763. It is situated on the old road running toward New Windsor. The house, still in good preservation, is a short distance from the town of Montgomery, Orange County, New York. Henderyokns Van Kemen was an officer in the revolution and was in several engagements. He warmly espoused the cause of his country and aided with his money, his influence and his personal efforts.

No. IX. HOME OF GENERAL HERKIMER, ORANGE COUNTY.
LABEL:

Built at Little Falls, Herkimer County, New York, 1764. The General died here ten days after the battle of Oriskany, during which a musket ball killed his horse and shattered his own leg. With perfect composure and cool courage he ordered the saddle taken off the dead horse and placed against a large tree. Seated here with his men falling and the bullets of the enemy flying, he gave his orders which made him master of the field and victor in the hard-fought backwoods fight of Oriskany.

No. X. THE BILLOP HOUSE, STATEN ISLAND. LABEL:

The place of the conference between Lord Howe and the American Commissioners, 1776. These commissioners were Benjamin Franklin, John Adams, and Francis Rutledge of South Carolina.



A DUTCH HOMESTEAD. ABOUT 1640.
For description see page 70.

SECTION V.

BROOKLYN AND LONG ISLAND.

GENERAL LABEL:

BROOKLYN AND LONG ISLAND.

"When, on the evening of the 11th of September, 1609, the 'Half Moon' of Amsterdam came to anchor at the mouth of the 'Great River of the Mountains,' then, undoubtedly, the eyes of white men rested for the first time upon the isle of 'Manahatta,' the green shores of 'Scheyichbi,' or New Jersey, and the forest crowned 'Iphetonga,' or 'Heights' of the present city of Brooklyn."—Stiles. These shores were then covered with magnificent forests. Hudson wrote of the country hereabout, "It is as pleasant a land as one need tread upon. The land is the finest for cultivation that I ever in my life set foot upon." He mentions again the "grass and flowers and goodly trees," when telling of his further sail up the "Great River." The journal of Hudson's voyage, kept by his clerk, Robert Juet, is now lost, but we have some of it in direct quotations made by Van Meteren and De Laet, who appear to have had access to it. The Long Island that he saw was covered with heavy growth of oaks, chestnut, sycamore and linden as the prominent trees, while among the smaller ones were the blue plum and wild crab-apple. Wild berries were plentiful and golden-rod and aster lent their own color to the scene, while the "Red Hook" or promontory in South Brooklyn, now covered with warehouses, then showed the bright tint of the soil which led the Dutch to give it its name. There were many small islands between the shore and Governor's Island. The water-front of Brooklyn is largely made land. At intervals along the shore there were "flats" or miniature prairies having a dark-colored surface soil. These the Indians cultivated. Hudson must have noticed the beans, the waiving maize and golden pumpkins of these fields, the large numbers of shore birds and water fowl, attracted by

the plentiful growth of wild celery, and the heaps of shells near the beaches—for oysters, which were especially fine at Gowanus, formed a large part of the Indian's food. Doubtless he and his men were fighting mosquitoes as they rowed towards the shore in their small boats, and this must have reminded them of similar experiences in May of the same year, when they had sailed past the North Cape toward Nova Zembla in the search for the Northeast Passage.

BROOKLYN—FIRST SETTLEMENTS.

The "flats," so like the low and level Netherlands and ready for the plough because of the rude cultivation practiced by the Indians, were first bought by the settlers, who were inexperienced in the clearing of forests. THE EARLIEST RECORDED GRANT TO AN INDIVIDUAL WITHIN THE LIMITS OF THE PRESENT COUNTY OF KINGS WAS IN JUNE, 1636. Then Jacob van Corlaer, a subordinate official of Wouter van Twiller's administration, purchased from the Indians a flat of land called "Casta-teeuw, on Sewan-hackey, or Long Island, between the Bay of the North River and the East River," the old records tell us. On the same day Andries Hudde and Wolfert Gerritsen purchased the flats next west and shortly after Wouter van Twiller secured those to the east. This was the beginning of New Amersfort or *FLATLANDS*. Later in 1636, William Adriaense Bennet and Jacques Bentyen purchased 930 acres at *GOWANUS* (an Indian name) between the present 27th Street and the New Utrecht line. In 1637, Jansen de Rapalie, a Walloon (Huguenot), purchased "Rennegackonk in the bend of Marechkawieck," about 335 acres now known as *THE WALLABOUT*, which in Dutch was "Waal-Bogt," or "Bay of the Foreigners," the name being first given to the Marechkawieck or Wallabout Bay. The *FERRY* (Fulton Ferry) was established by 1642, the ferryman, Cornelis Dircksen, having a house and garden near by. In 1645, Jan Evertse Bout, followed in 1646 by Huyck Aertsen, Jacob Stoffelsen, Pieter Cornelissen and Joris Dircksen, and in 1647 by Gerrit Wolphertsen van Couwenhoven and others, established themselves in the vicinity of Smith.

Hoyt and Fulton Streets, and called the village *BREUCK-ELEN*, after the ancient village of that name in Holland, about 18 miles from Amsterdam. These were the beginnings of the old city of Brooklyn. The Indian name for this territory was "Meryckawick," or "The Sandy Place." In 1638, Van Twiller bought for the Dutch West India Company an extensive area which comprised the whole of the former town of Bushwick, and later became the Eastern District of Brooklyn, paying for this "eight fathoms of duffels cloth, eight fathoms of wampum, twelve kettles, eight adzes, eight axes, and some knives, corals and awls." From these beginnings Brooklyn has grown, taking in village after village, until it occupies the whole of Kings County. January 1, 1898, it ceased independent existence as a city and became a borough of the *City of New York*.

LONG ISLAND—FIRST SETTLEMENTS.

Many explorers observed the seaward side of Long Island. Hudson landed here in 1609; Block discovered it to be an island in 1614-1615; Charles I requested the Plymouth Company to issue a patent to Lord Stirling for this and adjacent islands, April 2, 1636, the Earl giving power of attorney to James Farret, April 20, 1637, and Farret mortgaging the property "to Fenwick and others," for the sum of £110, in 1641: settlement was begun by the Dutch at the western end of the island in June, 1636; Lyon Gardiner bought Gardiner's Island in 1639, and the English settled at the Eastern end of the island in 1640. These are the main facts of the beginning of history of the White race on Long Island. Boundary disputes between Dutch and English were settled by a commission at Hartford, Connecticut, September 19, 1650, which divided the island by a "line running from the westernmost part of Oyster Bay straight and direct to the sea." Announcement of capture of the New Netherlands by the British was sent to the Long Island towns, September 8, 1664. In consideration of the sum of £300 sterling, Charles II obtained release of the Stirling grant and conveyed this and other territory to his brother James, Duke of York. A new and *very*

unpopular body of "Duke's Laws" was imposed in February, 1665, the people having no voice in the government. Long and Staten Islands were erected into a shire, called Yorkshire, towns in the present Suffolk County constituting the East Riding; Kings County, Staten Island and Newtown the West Riding, and the remainder of Queens the North Riding. These laws changed names of Midwout, Amersfort, Middleborough, Rusdorp, Breuckelen and Vlissengen, to Flatbush, Flatlands, Newtown, Jamaica, Brooklyn and Flushing, and made their "cattle numbers" N, M, O, P, Q and R. July 30th, 1673, the province was captured by the Dutch, whose occupation was terminated by the TREATY OF WESTMINSTER, February 19, 1674, by which Great Britain received it in exchange for Surinam. It was divided into counties, November 3, 1683, those of Long Island being Kings, Queens and Suffolk. April 10, 1693, Long Island was named "Nassau," but this was soon dropped. The island's history by county division and in the six wars has separate statements. It ranks among the desirable places of the earth for habitation because of the healthful properties of its air and soil, its good water, its fine beaches permitting invigorating sea bathing, and its variety in topography.

(Class A)

NO. I. DUTCH TYPE. SCENE, "IN THE NEW NETHERLANDS, ABOUT 1640. A PATROON, HIS FAMILY, AND HOME." LABEL:

Colors in Dutch dress were almost uniformly gay and in strong contrast to the quieter tints worn in New England. As here represented the heads and costumes of the Patroon and his wife are modeled from Elizabeth McClellan's "Historic Dress in America," and the baby from a picture of the same period, by J. Jordaens, now in the Madrid Gallery. The time was about 1640. The Patroon wears the rich doublet and baggy breeches of Holland, fastened with gold buttons. His ruff is wired, and his hat, of grey felt, is ornamented with long plumes of two colors, fastened with "points." His woolen stockings are fastened at the knee with a scarf of silk and "points." Points, or ties ornamented at the ends with

metal sheathes or tags, called aiglets or aiguillettes, and often richly jewelled, were the usual fastenings during the 16th and 17th centuries, taking the place of buttons in securing the different parts of the dress. They were often very dainty and sent as love tokens. Sometimes as many as twenty or thirty pairs were used by a man of fashion. These, and bowknots about his waist, proclaim this Patroon to have been such.

The lady's gown is of crimson satin with pointed bodice, cut low neck, with full sleeves slashed to show the white undersleeves. Her ruff and cuffs are of lace starched and wired, and her stomacher is held in place by jewelled brooches. An overgarment of blue woolen has open sleeves and is tied with white ribbons. Her hair is worn in a knot at the back, with short wavy locks in front and a fringe of short curls upon the forehead.

The baby, after the fashion of the time, has a dress of rich brocade, with cap, "body" and apron of finest linen.

Such costumes and houses as these pictured might have been seen in Brooklyn or any of the Dutch villages of the New Netherlands, at that period. Houses varied in size and detail according to the purse and fancy of the builder, but all were hospitable in appearance, ample in proportion and generally painted white, with green blinds. The typical house was a one-story structure built of stone, wood or brick—frequently of all three—set gable end to the road, with finished attic containing a few sleeping rooms, a store-room and a spinning and loom room. The roof, steep at the ridge pole, curved slightly in the descent, was pierced by three dormer windows and carried beyond the side wall to form a piazza. Its outer edge rested on five turned pillars. At a later date the roof line was modified by the "hip," an idea introduced from the houses of the English colonists on the island. The Dutch house always had plants and a pet bird brought from home in the windows, and was set in a pleasant garden or *bouwerie* bright with flowers, especially tulips, with lilacs and syringas growing against the house corner. The house pictured was modeled from the Bergen and Schenck homesteads on the road to Bergen Beach (Bergen Island and Crooke's Mills), the first of which dates to 1649, while the other is

supposed to be several years older. These are the oldest houses in good repair in Brooklyn.

Nineteen years after Hendrick Hudson landed at Gravesend Bay, Dutch trading posts in the New Netherlands had become so important that the Home Government decided to attract desirable and permanent colonization. To that end an act was passed in Holland (1629) conferring the title of "Patroon," which means patron or protector, together with the grant of a large tract of land with manorial privileges and the right to entail, on one who raised a company of fifty colonists and brought them to America. At first the individual had to be a member of the Dutch West India Company which had control here, but later the title could be obtained by any fulfilling the conditions. Patroons acquired immense wealth and the furnishings of their homes were the choicest they could import. Through the effort of the Anti-rent Party the privileges of the Patroon were extinguished about 1850.

(Class B)

(Brooklyn.)

NO. I. CANDLE SNUFFERS USED IN THE EARLY 16TH CENTURY. GIFT OF HERBERT LEE UTTER.

NO. II. WINDOW WEIGHTS AND DOOR HINGES. GIFT OF HENRY ROPKE. LABEL:

From an old Dutch church, Jamaica, built in 1740. It was changed into a house and used as headquarters by Washington during the Revolution.

The house was destroyed by fire in 1903.

NO. III. INFANT'S HAND EMBROIDERED WAIST (ABOUT 1800). GIFT OF MRS. M. MUMBY.

NO. IV. INFANT'S HAND EMBROIDERED LACE CAP (ABOUT 1800). GIFT OF MRS. M. MUMBY.

NO. V. SAMPLER, WROUGHT IN SILK, BY MISS CHARLOTTE A. SIBLEY, DATED JULY 23, 1825. GIFT OF MRS. M. MUMBY.

- No. VI. SAMPLER, WROUGHT IN WORSTED, BY CATHERINE I. JAMES, IN 1843. GIFT OF MRS. JULIA A. SEARING. LABEL:

This Sampler was worked by the mother of Mrs. Searing, in 1843, at the age of ten. At that time samplers were used in school for instruction and practice in needle-work. When a sampler was well made it was framed and hung for exhibition.

- No. VII. SABOTS. OF MODERN MAKE. INTRODUCED TO SHOW THE KIND WORN BY THE FIRST DUTCH SETTLERS.

(Class C)

- No. I. MINIATURE PORTRAIT, PAINTED ON IVORY, OF MISS CHARLOTTE A. SIBLEY. GIFT OF MRS. M. MUMBY.

- No. II. LORD STIRLING AT THE BATTLE OF LONG ISLAND.

- No. III. BATTLE PASS.

- No. IV. MARTYRS' MONUMENT.

- No. V. INVITATION TO OPENING OF THE BROOKLYN BRIDGE.

- No. VI. BROOKLYN IN 1816.

(LONG ISLAND.)

(Roslyn.)

- No. VII. WILLIAM CULLEN BRYANT, WITH (A) AUTOGRAPH COPY OF "TRUTH CRUSHED TO EARTH."

(Easthampton.)

- No. VIII. WINDMILL, REVOLUTIONARY PERIOD.

- No. IX. HOME OF JOHN HOWARD PAYNE, WITH PORTRAIT. LABEL:

John Howard Payne, author of "Home, Sweet Home," was born at No. 33 Pearl Street, Manhattan, June 9, 1791. His parents soon after removed to Easthampton, Long Island, his father, William Payne, having been made head-master of the Academy which Governor Clinton had caused to be

erected in that town. His mother was Sarah Isaacs, daughter of a distinguished Hebrew living in Easthampton, and of a Scotch woman, formerly Miss Hedges, niece of the Earl of Dysart. Payne was a man of varied ability, actor and author. "Home, Sweet Home" is from his "Clari, the Maid of Milan," first performed at Covent Garden Theatre, London, on May 8, 1823, Miss Tree, sister of Miss Ellen Tree (Mrs. Charles Kean), singing the song. In 1842, Payne was made Colonel on the staff of Major-General Aaron Ward, 4th Division, New York State Militia, and on August 23 of that year, President Tyler appointed him Consul at Tunis, Algiers. He died there, April 9, 1852, was buried in St. George's Cemetery; his body was subsequently removed to this country, arriving at Martin's Stores, Brooklyn; lying in state at the City Hall, Manhattan, and being reinterred at Oak Hill Cemetery, Washington, D. C., with impressive ceremony, on June 9, 1883. Payne was well known in Brooklyn, as he was a frequent visitor at the home of his brother, on Clinton Street, near Harrison. A fine bust of Payne, by Baerer, was unveiled in Prospect Park, September 27, 1873.

(Southold.)

NO. X. THE FIRST CHURCH. LABEL:

This church was formed on the 21st of October, 1640, by Rev. John Youngs of St. Margaret's, Reyden, and its chapel of St. Edmund's, Southold, Suffolk County, England. Reverend Mr. Youngs was a Puritan, who came over with his family and founded the church and the town of Southold. It was the earliest church to be organized as a religious corporation on Long Island. The present church was rebuilt in 1803. It stands a short distance east of the first meeting-house, the site of which is marked by a granite monument. This view of the church also gives a portion of the cemetery which is called "new."

NO. XI. CHURCHYARD OF THE FIRST CHURCH. LABEL:

In this cemetery are buried the first pastor, Rev. John Youngs, and his son, the Honorable John Youngs, High Sheriff of Yorkshire, and member of His Majesty's Colonial

Council. He was the most eminent and powerful man of Long Island for a generation.

HUDSON-FULTON LABELS IN OTHER THAN THE HISTORICAL COLLECTION.

In each collection whatever relates to the Hudson-Fulton celebration is emphasized by special label, or, where there are a number of such objects, attention has been called to them in a general label posted in conspicuous place.

BOTANY.

I GENERAL LABEL.

WHAT HUDSON MUST HAVE SEEN.

"This is a very good land to fall in with, and a pleasant land to see," is the record in the "Journal" of Hudson's voyage on the day when his ship came to anchor off the Navesink Highlands. As he sailed up the bay and explored the shores hereabout, he made frequent mention of the beauty of the country, with its grass, flowers, and as goodly trees as ever he had seen, from which came sweet odors. Barren Island and Coney Island then extended much farther into the Lower Bay, and back of their long sweep of beach was fertile land, now covered by sand. Here were groves of red cedar with some lower growth, in which sumach was changing to its autumn tint, the whole fringed with golden-rod and aster of both white and purple varieties. The flower border continued along the promontory where is now Fort Hamilton, outlined Gravesend Bay, went over the Red Hook and up to the present Heights. This was probably as far on the East River as Hudson's boats ventured. But the character of the trees changed. The red cedar gave place to oak, chestnut, linden, tulip, sour-gum, alders, magnolia, ironwood, larch, white cedar, beech, hemlock, sycamore, pines, and wild fruit trees—the plum and black cherry. On the Heights were magnificent groves of ash and oak. Wild grape vines rioted over the trees. There were quantities of green briar and bitersweet, the berries then darkening; of Virginia creeper and poison ivy. When Hudson's men came ashore, as they are known to have done, they must have passed through fields of

corn (maize) and bean patches which the Canarsie Indian women had planted, and if they walked through the forest or into its glades, their feet must have touched wild flowers, either in leaf or in blossom. Among these were members of the mint, clover, buttercup, myrtle, mustard, St. John's wort, dandelion, lobelia, jack-in-the-pulpit, iris, sorrel, Solomon's seal, wild lily, plantain, and tansy families, mushrooms, toadstools, ferns, the many luxuriant grasses and sedges, the water rushes, the wild celery on which the ducks fed, and many other flowers familiar to us at this day.

Examples of the flora mentioned are in this collection.

GEOGRAPHY.

2 Special Labels.

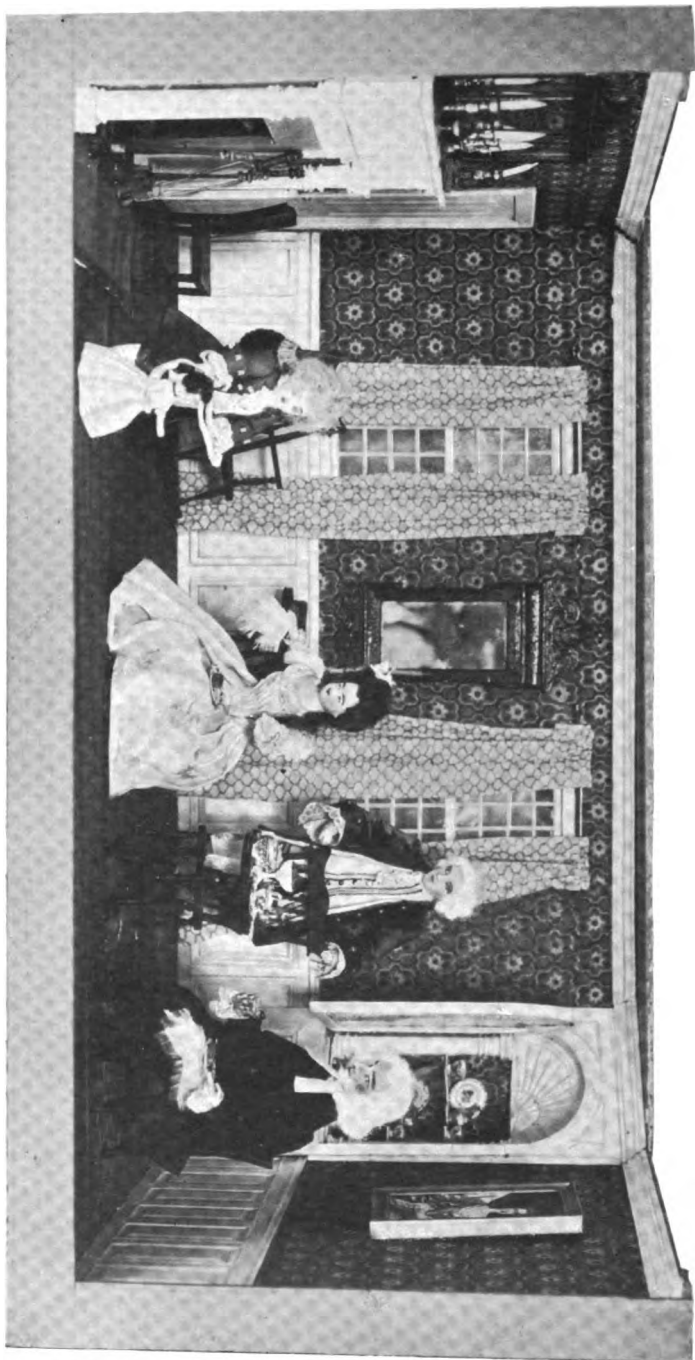
On a wall map of this section of the United States the Hudson-Fulton route is marked by tiny flags of the Holland of 1609 and the United States of 1807, the first-mentioned placed at Navesink Highlands and at Albany, the second at Manhattan Borough and at Albany. The label states: "These flags, of the Holland of 1609 and the United States of 1807, show the route followed by Henry Hudson, in 1609, beginning at Navesink Highlands, New Jersey, and ending at Albany, New York, and by Robert Fulton, in 1807, beginning at Manhattan Borough, the old City of New York, and ending at Albany."

The collection is enriched by large type models, which open a series showing life and occupation as governed by zonal distribution. California and Haida Indians, Labrador and Alaska Eskimo, and a lumber camp in a temperate forest are those now installed. The last named was given the following label when put on exhibition in 1907:

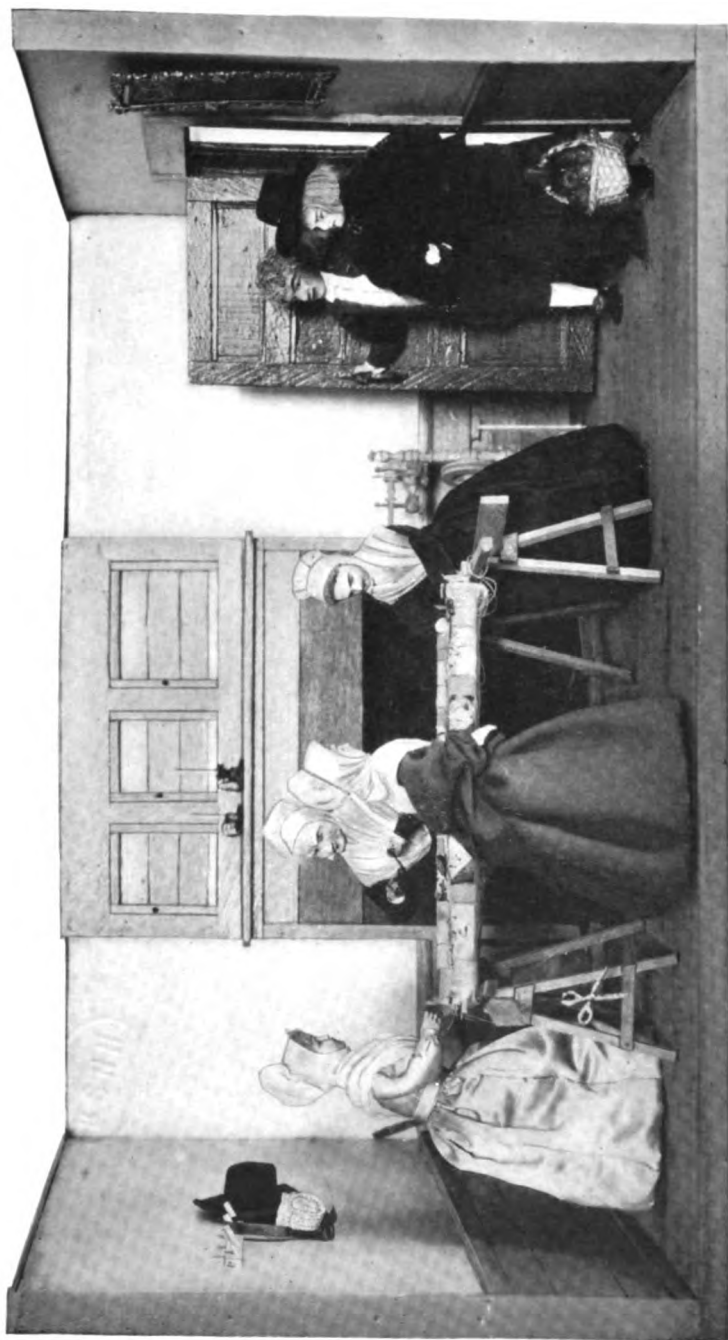
LUMBER CAMP IN TEMPERATE FOREST.

These men have gone into the deep forest away from human dwellings, to fell trees and prepare the valuable timber for the markets of the world.

The log cabin, its furniture and nearly all the conveniences of the camp are obtained directly from the forest. Food, clothing, oil and the necessary tools of iron and steel



THE MINISTER CALLS ON THE FAMILY. ABOUT 1730.
For description see page 35.



A QUAKER "QUILTING-BEE," ABOUT 1800.
For description see page 37.

are bought with money made from the sale of the lumber. The barrels on the bobsled at the right are filled with food supplies from the nearest trading station.

While the lumberman must earn his living by hard labor with his hands, life for him is much easier than for the Eskimo. The lumberman can always find people ready to sell him food and clothing, while the Eskimo must either capture his food or starve.

The methods of lumbering shown in this model are those employed many years ago before steam and machinery came into use.

It now has this additional label:

LUMBER CAMP IN TEMPERATE FOREST.

Because it shows conditions that the settlers had to meet, this model relates very closely to the period of early settlement on Long Island. While the forest was not so dense here as on the mainland and some wind-swept stretches were almost bare of trees, there were heavily wooded sections. These the British were more ready to take up than were the Dutch, who preferred the "flats" of fertile land along shore, as being like the farms in their own Holland, so first purchased those from the Indians, though afterwards they occupied the wooded hills. But nearly every British colony had members brought up in or near the great British forests, therefore familiar with woodcraft.

GEOLOGY.

2 Special labels and one General (Long Island) label.

The topaz, in the series of birthstones, case of gems, in the mineralogy room, has this label:

The TOPAZ was

ROBERT FULTON'S BIRTHSTONE

He was born November 14, 1765.

A specimen of serpentine, in prominent position in the mineral case, has this in addition to the usual descriptive label:

"On Friday, the 2d, the Half Moon anchored near 'a cliffe that looked of the colour of a white greene.' This cliff

is one of the most accurately located landmarks in Hudson's river voyage, being without doubt the green serpentine outcrop at Castle Point, Hoboken." Edward Hagaman Hall, L. H. M., L. H. D.—"Hudson and Fulton."

The general label, also printed as a leaflet for the use of teachers and students, is as follows :

GEOLOGY OF LONG ISLAND.

Long Island Indians account for the stones and huge boulders on the north shore in a legend of an angry demon on the Connecticut shore who hurled the rocks at offending demons on this side of the Sound. Geology accounts for them by showing that they were left by a great ice-sheet which swept down from the North, thousands of years ago, and left its story plainly written in the language of stone and sand. The first was brought from northern mountains, and the second was scooped up out of the ground where Long Island Sound now is. Both were deposited at a line about the center of the Island in what is called a moraine, thus forming a ridge now known as "the backbone of Long Island." This starts at Bay Ridge and forks at Port Jefferson, the southern line continuing to form Montauk Point, with vanishing remains further eastward in Block Island, Martha's Vineyard, and Nantucket: the northern line forming Orient Point, and Plum, the two Gull, and Fisher's Islands. Some geologists think this northern line the work of a second ice-sheet. The hills of the island are composed of what is called "gravel-drift" and "till" or drift proper. The yellow gravel drift also forms the soil of the pine barrens of southern and eastern Long Island and appears in a brickyard at Huntington. Near Brooklyn the till attains its greatest depth, between 150 and 200 feet. Mt. Prospect, in Prospect Park, 194 feet in height, probably consists for the most part of till. Some of the boulders placed by the ice-sheet are of enormous size. At Shelter Island is one, now split in three pieces, that as a solid mass contained over 9,000 cubic feet. Rock in place comes to the surface only near Astoria.

It is said that "highways follow deer paths," but the paths which those animals choose were frequently first laid

down by glacial action. When the progress of the ice-sheet was stopped the ice began to melt—the water collected in sub-glacial rivers and where two such rivers met or where great balls of ice, boulders and debris were left at the edge of the moraine, basin-shaped depressions called “kettle holes” were made. Up to 1904 three such existed on Brooklyn Avenue just beyond the Eastern Parkway. Gardiner’s, Great and Little Peconic bays, and one or two smaller bays, were originally formed by sub-glacial streams as they emerged from the land. Some of these have a bottom below present sea level because the old river channels had their beds near the old sea bottom and retained their original depth while the drift was being deposited around them. An “esker” or gravel ridge, formed by a sub-glacial stream, was formerly to be seen at DeKalb Avenue near Myrtle Avenue Park, Ridgewood. Brooklyn streets which follow depressions left by old sub-glacial streams are Martense Lane, in Flatbush; the old Port Road, through Prospect Park; the old Clove Road, near the Penitentiary, and the Hunter-Fly (“Vly” Dutch for Valley) Road in East New York.

A uniform water level exists in the stratified sands of Long Island which are underlain by clays, and on this depends the existence of the many ponds of clear and cool water, some of which have no visible inlet or outlet. The largest of these, Lake Ronkonkoma, is 13 miles in circumference, with a maximum depth of 83 feet.

Fossils have been found at Fort Lafayette, New Utrecht, Prospect Park, Fort Greene, and Front Street. Fossil leaves and plants exist from Eaton’s Neck to Glen Cove.

The New Jersey clay beds continue on Long Island, reaching it at Rockaway Inlet and crossing the Island diagonally to Lloyd’s Neck. South of this is a marl belt. Lignite is found and peat beds abound. Magnetite, occurring almost everywhere on the beaches in the form of sand, is the only magnetic ore on the Island. Iron pyrites is present as Marcasite, a material prized by jewelers. With the sand, gravel and clays before mentioned, it will be seen that almost the whole of Long Island can be utilized in the arts and trades.

ZOOLOGY.

I General Label.

HERE WHEN HUDSON CAME.

Hudson was impressed by the number of fish in this harbor. Soon after anchoring he sent men out in a small boat to get a supply, and notes in his journal, September 4, "Caught ten great mullet, a foot and a half long, and a Ray as great as four men could haul into the ship." He mentions salmon, sturgeon, and quantities of snipe and other birds, and must have noticed the butterflies, for at that time of year the monarch, tiger-swallowtail and sulphur butterflies are most abundant. Probably at dusk the noise made by katydids was heard by those on the "Half Moon." Daniel Denton, son of the first minister at Hempstead, who came from Stamford in 1644, published a "History of New York" in 1670, in which he said that the Long Island Indians ate fish, fowl, venison, skunks, raccoon, opossum, turtles, etc., and spoke of the prevalence of wolves and foxes. Wolves were annoying in 1665, for the "Duke's Laws" promise "The value of an Indian coat to be given to any one who shall bring the head of a wolf to any constable on Long Island, provided it be killed on Long Island." Foxes and wild-cats had laws passed against them in 1717. It is possible that bear were localized in small numbers. Whales were so plentiful that the salary of the first minister at Easthampton was paid mainly in whale oil. Shad were also abundant, the shad fishery at Fort Hamilton being noted as late as 1848. All these must have been here when Hudson came. Many remain, but wolves, bear, otter and others have been exterminated. The Labrador duck, once plentiful, became extinct here about forty years ago. The black rat, introduced early in the history of the country, has been almost universally replaced by the obnoxious rodent, the Norway rat, which, with other pests, such as the house mouse, the Croton bug and Oriental roach, was brought on European ships. Native roaches and mice were confined more to the woods, though Indians had plenty of pests in their habitations attracted by lack of cleanliness—bedbugs, lice, carrion and scavenger beetles, flies, mosquitoes,

ants, etc. Of the creatures that were here when Hudson came this Museum exhibits :

Bear	Water
Bay lynx or wild-cat	Ring-necked
Wolf	Worm
Fox	Turtles
Skunk	Snapping
Opossum	Red-legged
Porcupine	Box
Raccoon	Mud
Woodchuck	Painted
Squirrels	Spotted
Gray	Lobster
Red	Crab
Chipmunk	Shrimp
Rabbit, cotton-tail	Oysters
Mink	Clams
Weasel	Mussels
Martin	Squid
Bat	Fish
Porpoise	Mullet
Whale (model)	Ray
Beaver	Salmon
Muskrat	Sturgeon
Vole	Bass
Mole	Brook-trout
Frogs	Shad
Green	Perch
Leopard	Weak-fish
Pickerel	Dog-fish
Wood	Birds
Tree	Song birds
Bull	Duck
Toads—3 kinds	Geese
Salamander	Snipe
Snakes	Swan
Banded rattle	Herons
Blue racer	Pigeons
Copperhead	Eagle
Black	Osprey
Brown	Gulls
Garter	Owls
Blowing-adder	Hawks
Red-bellied	Butterflies
Milk	Insects.

THE LIBRARY.

The Library has a Hudson-Fulton bookshelf and bulletins about each of the men.

BOOKS CONSULTED.

- Abbott.....Old Paths and Legends of the New England Border.
- Abbott.....Lives of the Presidents.
- Arnold.....The Sea Beach at Ebb Tide.
- Beauchamp.....Wampum and Shell Articles.
- Boutelle.....Arms and Armor.
- Church.....Indian History.
- Cooper.....Navy of the United States.
- Denton.....History of New York.
- Demmin.....Die Kriegs waffen.
- Drake.....Indian History.
- Drake.....Nooks and Corners of the New England Coast.
- Earle.....Two Centuries of Costume in America.
- Earle.....Costume of Colonial Times.
- Eggleston.....Household History of the United States.
- Ellis.....The People's Standard History of the United States.
- Elson.....History of the United States.
- Emmerton.....Life on the Sea Shore.
- Emmons.....Navy of the United States.
- Fairlie.....National Administration of the United States.
- Fiske.....New France and New England.
- Fiske.....History of the United States.
- Fiske.....Dutch and Quaker Colonies in America.
- Fiske.....Old Virginia and Her Neighbors.
- Gauss.....The American Government.
- Griffis.....Brave Little Holland.
- Hadyn.....Dictionary of Dates.
- Hart.....The American Nation.
- Hart.....Source Readers in American History.
- Hart (ed.)....Grolier Club Catalogue of Washington Portraits.

- Harrison.....This Country of Ours.
 Jenks.....Our Army for Our Boys.
 Johnson.....French Pathfinders in America.
 Johnson.....Pioneer Spaniards in North America.
 Johnson.....Original Portraits of Washington.
 Kretschmer
 and } Trächten der Volker.
 Rohrbach.....}
 Lacombe.....Arms and Armor.
 Lockwood.....Colonial Furniture in America.
 Lossing.....Field Book of the Revolution.
 Lossing.....Our Country.
 Luddington....Uniforms of the Army of the United States.
 Lyon.....Colonial Furniture in New England.
 Maclay.....History of the Navy.
 Macgeorge....Flags.
 Mayer.....Sea Shore Life.
 McLellan.....Historic Dress in America.
 Mercuri.....Costumes historique.
 Montgomery...American History.
 Moore.....Old Furniture Book.
 Morgan.....Theodore Roosevelt.
 Munn.....Three Types of Washington Portraits.
 National Cyclopedia of Biography.
 New International Encyclopedia.
 Parkman.....Jesuits in North America.
 Parkman.....Montcalm and Wolf.
 Putnam.....Open Fireplace.
 Racinet.....Le costume historique.
 Richardson....Cambridge on the Charles. Harper's Maga-
 zine, January, 1876.
 Septimo.....Collecion litografica de quadros del rey de
 España.
 Smith.....Thirteen Colonies.
 Spears.....United States Navy.
 Stiles.....The History of Brooklyn.
 Stratemeyer...American Boy's Life of William McKinley.
 Thomas.....History of the United States.
 Thompson.....History of Long Island.

Thwaites.....France in America.
Walton.....Stories of Pennsylvania.
Walton.....Uniforms of the Army of the United States.
Weir.....John Trumbull and His Works.
Winterburn...Spanish in the Southwest.



For fuller information in regard to the Indians of this vicinity the reader is referred to

THE INDIANS OF MANHATTAN ISLAND
AND GREATER NEW YORK,

by Alanson Skinner, being

A GUIDE

TO THE

HUDSON-FULTON EXHIBIT

AT THE

AMERICAN MUSEUM OF NATURAL HISTORY.

THE HUDSON-FULTON CELEBRATION COMMISSION

Appointed by the Governor of the State of New York
and the Mayor of the City of New York and
chartered by Chapter 325, Laws of
the State of New York, 1906

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Metropolitan Museum of Art

**List of Institutions holding Free Exhibitions under the
auspices of or in co-operation with the Scientific,
Historical and Art Committees of the Hudson-
Fulton Celebration Committee.**

AMERICAN MUSEUM OF NATURAL HISTORY, Seventy-seventh Street, from Columbus Avenue to Central Park West. Open daily, except Sundays, from 9 a. m. to 5 p. m.; Sundays from 1 to 5 p. m. Always free. **Special Exhibition during the Hudson-Fulton Celebration, from September 1st to December 1st.** Original objects showing the life and habits of the Indians of Manhattan Island and the Hudson River Valley. (Special illustrated guide for sale; price, 10 cents.)

AMERICAN SOCIETY OF MECHANICAL ENGINEERS, Engineering Building, 29 West Thirty-ninth Street. Robert Fulton Exhibition consists of paintings, drawings, books, decorations and furniture, and working models of John Fitch's steamboat, the first boat operated and propelled by steam, Robert Fulton's "Clermont," the first successful application of steam to navigation, and John Stevens's "Phoenix," the first steamboat to sail on the ocean.

Council Room of the Society, eleventh floor, and will be open from 9.00 a. m. until 5.30 p. m. during the entire period of the Hudson-Fulton Celebration, and from 9.00 a. m. until 5.00 p. m. daily until December 6th.

BROOKLYN INSTITUTE MUSEUM, Eastern Parkway. Open daily, except Sundays, from 9 a. m. to 6 p. m.; Sundays from 2 to 6 p. m.; Thursday evenings from 7.30 to 9.45 p. m. Free except on Mondays and Tuesdays, when admission fee is charged of 25 cents for adults and 10 cents for children under sixteen years of age. **Special Exhibition relating to Stone Implements of the Indians on Long Island, and examples of native animals; Portrait of Robert Fulton painted by himself, the property of Col. Henry T. Chapman and loaned by him to the Museum.**

CHILDRENS MUSEUM (Brooklyn Institute), Bedford Park, Brooklyn Avenue. Historical Collection and Objects of Related Interest (Illustrated Catalogue). Open free to the public from Monday to Saturday (inclusive) from 9 a. m. to 5.30 p. m., and on Sunday from 2 until 5.30 p. m.

CITY HISTORY CLUB OF NEW YORK, 21 West Forty-fourth Street. **Special Exhibition of Illustrations, Photographs, Maps and Plans relating to the history of the City of New York, and all of the originals used in the City History Club Historical Guide Book of the City of New York.**

COLLEGE OF THE CITY OF NEW YORK, St. Nicholas Avenue and 139th Street. Hudson-Fulton Exhibit. During the Hudson-Fulton Celebration and for some weeks thereafter, the College of the City of New York will have on exhibition in its historical museum a collection of charts, views, manuscripts and relics representing old New York.

DEPARTMENT OF PARKS, BOROUGHES OF BROOKLYN AND QUEENS. Through the courtesy of Commissioner Michael J. Kennedy, the different species of trees have been labeled in Prospect Park, from the Plaza to the Willink Entrance; in Bedford Park; in Highland Park; and in Tompkins Park. An additional small enameled sign has been

hung on those labeled trees that were indigenous to the Hudson River Valley in 1609. The special label reads: "This species is a native of the Hudson River Valley."

FRAUNCES TAVERN, 54 Pearl Street, near Broad Street. Historic Revolutionary Building. Built in 1719. Open daily, except Sundays, from 9 a. m. to 6 p. m. Special Exhibition of Revolutionary Relics by the New York State Society of the Sons of the Revolution, who are the owners of the historic building, September 15th to November 1st.

LONG ISLAND HISTORICAL SOCIETY, corner of Pierrepont and Clinton Streets, Brooklyn, between Brooklyn Bridge and Borough Hall. Open daily, except Sundays, from 8.30 a. m. to 6 p. m. Reference library of 70,000 volumes; manuscripts, relics, etc. Autograph receipt of Robert Fulton and original manuscript volume of Danker's and Sluyter's "Journal of a Voyage to New York in 1679-80."

METROPOLITAN MUSEUM OF ART, Central Park East. Main entrance on Fifth Avenue at Eighty-second Street. Open daily, except Sundays, from 10 a. m. to 6 p. m.; until December 31st, to 5 p. m.; Saturdays to 10 p. m.; Sundays from 1 to 6 p. m. On Mondays and Fridays an admission fee of 25 cents is charged, except to members and copyists. Collections illustrating all departments of Art and Archaeology. Special Exhibition of a magnificent Collection of over 130 of the works of 17th century Dutch Masters, constituting the finest Exhibition of this kind ever made. Products of Colonial Art: American Paintings, Furniture, Pewter and Silver of the 17th and 18th centuries, etc. (Two catalogues for sale, one of Dutch Exhibit and one of Colonial Arts; price, 10 cents each. Also finely illustrated edition de luxe.)

NATIONAL ARTS CLUB, Twentieth Street near Irving Place (Gramercy Park). Open daily from September 20th to about October 18th, 1909, from 10 a. m. to 6 p. m. Special Loan Exhibition by the National Arts Club, in co-operation with the American Scenic and Historic Preservation Society.

Three centuries of New York City: Special Exhibition of Paintings, Photographs, Drawings and other interesting materials, illustrating the growth and progress of New York from the time of Henry Hudson to the present day.

NEW YORK AQUARIUM, in Battery Park. Under the management of the New York Zoological Society. Open daily, including Sundays, from 9 a. m. to 5 p. m. until October 15th. (October 16th to April 14th, from 10 a. m. to 4 p. m.) All tanks containing fish indigenous to the Hudson River will be so marked.

NEW YORK BOTANICAL GARDEN, Bronx Park. Museums open daily, including Sundays, from 10 a. m. to 5 p. m.; Conservatories from 10 a. m. to 4 p. m. Grounds always open. In the Grounds and Conservatories exhibits of Plants, Shrubs, Trees and Natural Woodland; in the Museums, Plant Products utilized in the Arts, Sciences and Industries. All Trees growing on Manhattan Island and Hudson River Valley at the time of Hudson's arrival are marked with the letter "H." (Special illustrated catalogue for sale.)

NEW YORK GENEALOGICAL AND BIOGRAPHICAL SOCIETY, 226 West Fifty-eighth Street, between Broadway and Seventh Avenue. Open daily, except Sundays, from 10 a. m. to 5 p. m., until November 1st.

Special Exhibition of old Deeds, Manuscripts, Books, Portraits, etc., relating to the history of the United States up to and including the War of 1812. (Catalogue for sale.)

NEW YORK HISTORICAL SOCIETY, corner of Seventy-seventh Street and Central Park West. September 25th to October 30th, open daily from 9 a. m. to 5 p. m. Robert Fulton Exhibition of the New York Historical Society, in co-operation with the Colonial Dames of America. (Catalogue for sale.)

NEW YORK PUBLIC LIBRARY, Lenox Branch, Fifth Avenue and Seventy-second Street. Open daily, except Sundays, from 9 a. m. to 6 p. m. Special Exhibition of Prints, Books, Manuscripts, etc., relating to Henry Hudson, the Hudson River, Robert Fulton and Steam Navigation. (Special illustrated catalogue for sale; price, 10 cents.)

NEW YORK ZOOLOGICAL PARK, under the management of the New York Zoological Society, St. Nicholas Avenue (138th to 140th Streets), in Bronx Park. Open daily, including Sundays, from 9 a. m. until an hour before sunset (November 1st to May 1st from 10 a. m.). Free, except on Mondays and Thursdays, when an admission fee of 25 cents is charged. The fauna of Henry Hudson's time on Manhattan Island and Hudson River Valley will be indicated by the flag of the Hudson-Fulton Celebration. (Special illustrated catalogue for sale.)

REFORMED DUTCH CHURCH. The Reformed Protestant Dutch Church of the City of New York will make an exhibit in the chapel of the Church of St. Nicholas, Fifth Avenue and 48th Street, during the week of the celebration, 9 to 5 daily.

VAN CORTLANDT HOUSE MUSEUM, in Van Cortlandt Park was built in 1748. Open daily, 9 a. m. to 5 p. m. Special Exhibition of Mezzotint Portraits of men prominent in political life prior to the Revolution; Wedgwood's Medallion Portraits of Illustrious Personages; Cartoons and Caricatures of political events, etc. (Special illustrated catalogue on sale.)

WASHINGTON'S HEADQUARTERS (The Jumel Mansion), Roger Morris Park, Edgecombe Road and One Hundred and Sixty-second Street. Built about 1760. Open free daily, including Sundays, from 9 a. m. to 5 p. m. Special features: Collection of Colonial furnishings, objects and pictures; also the Bolton Collection of War Relics of the Revolution.

BY SPECIAL CARD ONLY.

AMERICAN GEOGRAPHICAL SOCIETY, 15 West 81st Street. Special Exhibition of Books and Maps relating to Henry Hudson and Robert Fulton. Admission may be obtained by card. Apply to the Librarian, 15 West 81st Street. Open from September 25th to October 9th, from 9 a. m. to 5 p. m.

MUSEUM BULLETIN

OF THE

Staten Island Association of Arts and Sciences

EDITED FOR THE PUBLICATION COMMITTEE
BY CHARLES LOUIS POLLARD, CURATOR-IN-CHIEF

No. 14.

Published Monthly at New Brighton, N. Y

SEPTEMBER, 1909.

THE HUDSON-FULTON EXHIBIT IN THE MUSEUM.

As announced in the last issue of the BULLETIN, the special commemorative exhibit was opened on September 4, the anniversary of Hudson's first landing on Staten Island. The exercises were quite informal; in the unavoidable absence of President Bayne, brief addresses were made by Dr. Hollick and Mr. Hillyer, of the Board of Trustees, and by the Curator-in-chief.

The exhibit is designed to illustrate, synoptically, the historical development of Staten Island. The physiography and stratigraphic geology of the island is first shown by means of specimens of rocks, minerals etc., arranged in geological sequence. The flora and fauna as it was in Hudson's time is indicated either by actual specimens or by descriptive labels: practically all the native trees are represented in the herbarium loaned by Master Carl Dowell, who recently won the annual high school prize offered by the Association.

The section devoted to the Indians is very complete. It includes a large series of stone implements, weapons, etc., from various parts of the island, their uses being fully set forth on the labels. By way of contrast, the Skinner collection of recent Iroquois Indian implements and costumes, from Central New York, lately presented to the museum, is also displayed here. Models of a Manahatas Indian village and of a small Indian tepee complete the section.

The period of Dutch colonial occupation is illustrated by a model of the water gate and adjacent houses at the foot of Pearl Street about 1650. With this is a most interesting model of the interior of a Dutch house, showing the typical exterior, and within the characteristic furniture, etc. This was constructed by Mr. Clement Parsons, the other models having been made under the direction of the Children's Festivals Committee.

The later colonial period, from the British occupation until after the close of the Revolution, is represented by various exhibits. Two cases are devoted to interesting relics of the eighteenth century, many of them belonging to Staten Island; another to old manuscripts, deeds and land grants. The walls are hung with series of maps of the island, from the earliest known down to the most recent. A large collection of old engravings, loaned chiefly by Mr. Gerald F. Shepard, shows various familiar scenes and buildings around Manhattan. The Billopp house at Tottenville is commemorated by a fine model.

As a supplementary feature of the exhibit there is a display of costumes of the various nations,—Dutch, French, Italian, etc.,—which have contributed largely to American citizenship. The room is decorated with Hudson-Fulton banners of every description.

The special exhibit will remain open until November 1, although as some of the loans are liable to be withdrawn at any time, the public is advised to visit the Museum early. The latter is open every afternoon from 1 to 5 except Sundays, Mondays and holidays. On Saturdays it is open from 10 to 5.

The Association will commence its various activities next month, the first meeting being held, as usual, on the third Saturday in October. The trustees will hold a stated meeting on October 9, and proposals for membership should be in the hands of the Secretary before that date.

**A Catalogue
of
Books, Maps, etc.**

Relating to
Henry Hudson Robert Fulton
And Their Times

Exhibited by the
American Geographical Society
at its house
No. 15 West 81st Street, New York

At the request of the
Hudson-Fulton Celebration Commission
September 25th to October 10th
1909

New York
MCMIX

NEW YORK, November 25, 1907.

ARCHER M. HUNTINGTON, ESQ.,
President American Geographical Society,
New York City.

DEAR MR. HUNTINGTON:—

As a member of a special committee for the Hudson-Fulton Celebration of 1909, I write to enquire whether the American Geographical Society is willing to co-operate with our Committee during the Hudson-Fulton Exhibition of 1909; first, the American Geographical Society to prepare a special collection of books, maps, and manuscripts contemporaneous with the discovery of the Hudson River and the explorations of Henry Hudson; and second, to prepare a collection of books, maps, and manuscripts relating to the period contemporaneous with the use of steam for navigation and of the time of Robert Fulton.

Very truly yours,
GEORGE F. KUNZ,
Chairman Special Committee
Hudson-Fulton Celebration.

NEW YORK, December 31, 1907.

GEORGE F. KUNZ, ESQ.,
Chairman Special Committee
Hudson-Fulton Celebration.

DEAR SIR:—

On behalf of the American Geographical Society, I am instructed to say in reply to your favor of the 25th ult., that the Society has a small collection of books and maps relating to the Hudson and Fulton periods, which it will be glad to place on exhibition at the Society's building, 15 West 81st Street, during the period of celebration in 1909.

When the time of the celebration approaches, the House Committee of the Society will arrange with some designated authority of your Committee, such rules as may be necessary for admission of visitors.

Wishing your Committee every success, we remain,

Very truly yours,
For the American Geographical Society,
JOHN GREENOUGH,
Domestic Corresponding
Secretary.



Verhael vande Reyse/ ende de Nieuw-gebonden Strate van ^{M^r} Hudson.

MR. Hudson die ettelijke malen Westwaerts een doorgangh ghesocht heeft / had zijn ooghmerck om door Tumbleps inlet in Fretum Davis in een doorgaende Zee te comen / ghelyck wy sulcr in zijn Caerte by ^{M^r} Plantius gesien hebben / est hy wessen Nova Albion in War del Zur te loopē / daer een Enghels-man / soo hy gheteckent had / door ghepasseert was. Maer nae veel moeptens heeft hy dese wech / die hier op dees Caerte gheteckent staet / gebonden / die hy vervolcht soude hebben / hadde't ghemeen Scheeps-volck niet soo onwillich gheweest: want also sy wel 10 maendt upgeweest hadden / daerse nochtans maer door 8 maenden gebict alieert waren / ende op de heele wech maer een man ghesien hebben: die haer een groot Bier brocht dat sy aten; die / om dat hy qualijck ghetracteert wiert / niet weer en quam / soo isset gemeen Scheeps-volck (als sy weder vande hoorchte van 52 gr. daer sy verwinterden / tot op de hoorchte van 63 grad. langhs de West-3yde vande Bape / daer sy in gelooopen waren) op gheclommen / daer sy een ruyme Zee ende groote baren upten Noordwesten vernamen / endelick teghens

Hudson's fourth voyage here described. From Hessel Gerritsz's "*Beschryvinghe vander Samoyeden Landt*," published in 1612. This text, with 12 more lines, was printed on the back of the folded map "*Tabula Nautica*" issued with the volume—a map from Hudson's own chart brought back by the mutineers. The chart was first published by itself in 1611. See Asher, *Henry Hudson*, p. 181 and p. xliii.

HUDSON-FULTON BIBLIOGRAPHY

H.—1884—ARBER (Editor)

The English Scholar's Library / Capt. John Smith / of Wiltoughby by Alford, Lincolnshire: President / of Virginia and Admiral of New England / Works / 1608-1631 / Edited by Edward Arber / Birmingham / 1884.

P. cxix mentions Smith's sending to Hudson by the *third* return of Captain Newport, about November, 1608, a duplicate of the "mappe of the Bay and Rivers."

H.—1759—ACRELIUS (Reprint)

Description / of the Former and Present Condition / of the / Swedish Churches / in What was called New Sweden / afterwards New Netherland etc. Published by / Israel Acrelius. Stockholm, Harberg & Hasselberg. 1759. Memoirs of the Historical Society of Pennsylvania, Vol. XI. / Philadelphia / Historical Society—1874.

P. 19. The Entrance of the Hollanders into the New World.

H.—1867—ASHER

Sketch / of / Henry Hudson / The Navigator / By Dr. G. M. Asher, of Heidelberg / Brooklyn / Reprinted for Private Distribution / 1867.—Pamphlet, pp. 23.

An excellent brief account of Hudson and his voyages.

H.—1860—ASHER

Henry Hudson / the / Navigator / The Original Documents / In which his career is recorded / Collected, partly translated, and annotated / with / an Introduction / by G. M. Asher, LL. D. / London / Printed for the Hakluyt Society, / MDCCCLX—8°—9¹ x 5⁵, pp. ccxviii + 292.

The introduction to this volume is the best essay extant on Hudson and the sources of information concerning him. The work contains reproduction of map from Hessel Gerritsz's volume and another reproduction f. p. 1 from Pontanus's history of Amsterdam, 1611, of a map by Jodocus Hon-

NOTE:—Where the size of volumes is given it is stated in inches and eighths.

dus, with first public mention of Hudson (See Hondius this catalogue), all the data concerning the voyages, extracts from De Laet's *Nieuwe Werelt*, from Lambrechtsen's *History of New Netherland*, from Van der Donck's *Beschryvinge van Nieuw Nederlandt*, from Hessel Gerritsz, and from the *Voyage of Verrazzano*, with first discovery of Hudson R'ver (p. 209), etc., etc.

H.—F. 1903—BACON

The Hudson River / From Ocean to Source / by / Edgar Mayhew Bacon / G. P. Putnam's Sons / New York and London / 1903.

Frontispiece, "The Half-Moon" on the Hudson. P. 194. Reference to Hudson's fight with Indians "off Spuyten Duyvel." P. 198. Mentions spot where Hudson is said to have anchored 13th of September. P. 422. Matthew Vassar planned monument to Hudson but changed to a college for women. P. 509. Point where Hudson anchored Sept. 17th.

Robert Fulton—Chap. IX. Sketch of his career and of the beginning of steam navigation, and of the Clermont. Gives pictures of earliest steamboats on the Hudson and their names, fares, running time between points, etc. P. 478. Fulton's marriage. Tradition that the Clermont was built near Tivoli fallacious. Confused with unsuccessful steamboat of Nesbit built just below upper Red Hook Landing.

H.—1907—BACON

HENRY HUDSON / His Times and his Voyages / by / Edgar Mayhew Bacon / G. P. Putnam's Sons. / New York and London—1907.

With frontispiece representing Henry Hudson and his son in the boat set adrift.

H.—1844—BARBER and HOWE

Historical Collections / Of the State of New Jersey / by John W. Barber / and / Henry Howe / New York / S. Tuttle / 1844.

P. 2. Mentions Hudson's following coast of New Jersey and anchoring within Sandy Hook.

H.—1560—BARDI (IVARE)

See Boty.

H. 1560. BARSDEN (IVAR) (Reprint)

See De Costa—Sailing directions of Henry Hudson, etc., and Boty.

H.—1818—BARROW

A Chronological History / of / Voyages into the Arctic Regions / Undertaken chiefly for the purpose of discovering a North-east, North-west / or / Polar Passage / between the / Atlantic and Pacific / from the earliest periods of Scandinavian navigation to the / departure of the / Recent Expeditions / under the orders of / Captains Ross and Buchan / by John Barrow, F. R. S. London, John Murray. 1818.

P. 178-195. Sketch of Hudson's voyages.

H.—1888—BARTRAM

Retrographs / Comprising / A History of New York City prior to the Revolution; / Biographies of George Washington, Alexander Hamilton, Nathan Hale; Sketches of John André and Beverly Robinson; Schemes of Aaron Burr and Benedict Arnold / etc. etc. / by F. S. Bartram / New York / Yale Publishing Company, 126 William St. (1888). 10⁴ x 7 = pp. 196.

P. 1. Discovery of site of New York generally accredited to Henry Hudson, 1609. Verrazani's discoveries. 2 to 13. Translation of part of "De Nieuwe en Onbekende Weereled: of Beschryving van America en't Zuidland: door Arnoledus Montanus, Amsterdam, 1671." Refers to Hudson as the discoverer. P. 9. Hudson on shore with the Indians.

P. 14. Translation of a portion of a Dutch manuscript of 1641, now in the Royal Library at The Hague—description of New Netherland—Mentions the river Mauritius (Hudson). P. 17. Mention of the river Montagne (Mauritius-Hudson)—"first sailed to (by Dutch) by Hendrick Christiaensen Van Cleef." Mentions Hudson's visit as of 1612. P. 23. Portrait of Henry Hudson and copy of his contract with the East India Co.

H.—1783—BATHURST (publisher)

The / Modern Part / of an / Universal History / from the / Earliest Accounts to the Present Time / Compiled from / Original Authors / by the Authors of the Ancient Part. / London, C. Bathurst. etc. MDCCLXXXIII. Vols. Ancient, 18. Modern, 42.—8⁴ x 5. (no authors names given).

Vol. XXXV, p. 243. 1605. Weymouth "arrived the following Whitsunday at the mouth of Hudson's river, . . . to which for this reason he gave the name of Pentecost harbour." P. 281. Limits of New England. 344. Captain Hudson said to be first who discovered the country and about 1608 he sold it to the Dutch.

H.—1753—BAUMGARTENS

Algemeine Geschichte / der / Länder und Völker / Von America / Zweiter Theil / Nebst einer Vorrede / Siegmund Jacob Baumgartens / Der h. Schrift Doctors und öffentl. Lehrers, auch des theologischen Seminarii Directors auf der königl. preuszl. Friedrichsuniversität in Halle. / Mit vielen Kupfern. / Halle, bey Johann Justinus Gebauer. 1753. 4^o—9² x 7⁴—pp. 905.

P. 663. Brief résumé of Hudson's explorations.

H.—1887—BAYLES

History of Richmond County (Staten Island) New York / From its discovery to the present time. / Edited by Richard M. Bayles / New York / L. E. Preston & Co. / 1887 /

P. 44. Discovery by Hudson. 46. He names "Staaten Eylandt."

H.—1853—BEKE

A / True Description of / Three / Voyages by the North-East /
/ Towards / Cathay and China / undertaken by the Dutch in the
Years 1594-1595 and 1596 / By Gerrit De Veer / Published at
Amsterdam in the year 1598 and in 1609. Translated into Eng-
lish by William Phillip. / Edited by / Charles T. Beke, Phil.
D., F. S. A. London / Printed for the Hakluyt Society. /
MDCCCLIII. (First edition.)

Appendix contains "An Account of Henry Hudson's Visit to Novaya Zemlya" and "Writings of William Barents etc.," both from Purchas. Note p. 273 as to certain headings having been written by Hudson "and not by Hakluyt as would at first sight appear."

H.—1876—BEKE AND BEYNEN

The Three / Voyages of William Barents / to the / Arctic
Regions / (1594, 1595, 1596) by Gerrit De Veer. / First edi-
tion edited by / Charles T. Beke Phil. D., F. S. A. / 1853 /
Second Edition, with an Introduction / by / Lieutenant Koole-
mans Beynen / (Royal Netherlands Navy) / London / Printed
for the Hakluyt Society / MDCCCLXXVI pp. clxxiv + 289.

P. xxxii. Hudson invited to the Netherlands. After long negotiations he started out in "De Halve Maan." Rivalry of Isaac Le Maire. Hudson's instructions.

xcv. Hudson on second voyage enters creek first entered by Barents in Nova Zembla in search of passage.

P. 265. An account of Henry Hudson's visit to Novaya Zemlya.

P. 273. Note on Hudson's having written headings recorded by Purchas.

H.—1794—BELKNAP

American Biography / or / An Historical Account / of those
Persons / who have been distinguished in / America / etc. / by
Jeremy Belknap, D.D. Published according to act of Con-
gress / Boston / Isaiah Thomas and Ebenezer T. Andrews /
MDCCXCIV /

Vol. I, p. 394-407. Hudson's voyages (from Purchas). 396, note criticises certain authors for putting Hudson's discovery of the river in 1608.

Vol. II, p. 135-150, Discussion of Weymouth's river. Analysis of Weymouth's log, 1605, to determine whether his Pentecost harbor was Hudson's River or not. Decided it was the Penobscot.

(Another edition in 3 volumes published by Harper & Bros., 1841, with additions and notes by F. M. Hubbard.)

H.—1817—BENSON

Memoir / Read Before / The Historical Society / of the /
State of New York / 31st December 1816 / By Egbert Benson—

. . . / New York / Printed by T. & W. Mercein / No. 93 Gold-Street. / 1817—8³ x 5⁴—pp. 72 (with written interleaves). Printed also in Vol. II, Collections of the New York Historical Society

P. 9. Original name of "Collect" Pond.

P. 10. "Our river"—several names of.

P. 12. Asks Rouw, who knew the language of the region, about the native name of the Hudson and he gave —Sha-te-muc— said it was so called by the natives.

P. 18. Quotes from Van der Donck as to first discovery of Hudson in 1609—the River of the Mountains.

P. 20. Dutch names of places—North River for Hudson—Prince Maurits's and Prince Hendrick's River also.

P. 64. The English gave to the river the name of Hudson by way of continual claim, he being of English birth.

H.—1876—BEYNEN

The Three / Voyages of William Barents / see Beke and Beynen.

H.—1831—BIDDLE

A Memoir of Sebastian Cabot with / A Review / of / the History of Maritime Discovery. (Richard Biddle.) Illustrated by documents from the rolls, now first published. Philadelphia, Published by Cary & Lea, 1831.

P. 295-296. As to Hudson's knowledge of Cabot's voyage.

H.—1635—1642—BLAEU (Atlas)

Tweede Deel / van't / Toonneel / Des Aerdriicx / Ofte / Nieuwe Atlas / uytgegeven / door / Wilhelm en Johannem Blaeu / Amsterdami / Apud Guiljelmum et Johannem Blaeu / Anno MDCXXXV—2d title page dated MDCXLII. 3 vols. 20 x 13.

With descriptive text. Volume II has map in colors with the title "Nova Belgica et Anglia Nova" showing "Noord Rivier al Mauritius Rivier." Mentions "Hendrick Hudson's" discovery in 1609. Speaks of Manhattes and Rio de Montaigne as names of "De groote noord-rivier" but the latter the name used by the Hollanders.

H.—1693—BLOME

Cosmography / and / Geography / In two Parts / The First Part / Containing the General and Absolute Part of / Cosmography and Geography / being a translation / from that eminent and much esteemed Geographer / Varenjus / Wherein are at large handled / etc. etc. / The Second Part / Being a Geographical Description of All the World / taken from the Notes and works of the Famous Monsieur Sanson, late geographer to the French King, etc.

The Third Impression illustrated with maps / London / Richard Blome / MDCXCIII / 4^o—pp. 493—14 x 9.

P. 432. "New York being well seated both for security, trade, and pleasure in a small isle called Mahatan regarding the sea made so by Hudson's River, which separates it from Long Island." Says the town contains about 500 houses.

F.—1880—BOOTH

History / of the / City of New York / by / Mary L. Booth / New York / E. P. Dutton & Co. / 1880.

P. 678. Grant of monopoly of waters of New York State to R. R. Livingston. 681. Portrait of Fulton. The "Fulton Folly" launched. 682. Picture of the Clermont. John Stevens just too late with his Steamboat. 683. Stevens first to send steamer to sea. First ferry-boat. 717. Erie Canal. Commission and scheme of the canal.

H.—1560—BOTY

(Reprint) "A Treatise of Iver Boty a Gronlander, translated out of the Norsh language into High Dutch in the yeere 1560," etc. etc. English translation with heading written by Henry Hudson, in Purchas His Pilgrimes, 1625. See Purchas, this Catalogue, and also De Costa—Sailing Directions of Henry Hudson and Beke, and Beynen.

H.—1705—BRADFORD

Bradford's History / "Of Plimouth Plantation," From the original Manuscript / With a Report of the Proceedings incident / to the return of the Manuscript to Massachusetts. / Printed under the direction of the Secretary of the Commonwealth / by order of the general committee / Boston, Wright and Potter Printing Co., State Printers / 18 Post Office Square / 1898.

The original book is known as the "Log of the Mayflower." Folio, 11½ x 7½—reprint 9⁷ x 6⁶, pp. 555.

P. 93. Date 1620—"After long beating at sea they fell in with that land which is called Cape Cod; . . . After some deliberation had amongst them selves & with ye m^r of ye ship, they tacked aboute and resolved to stande for ye southward (ye wind & weather being faire) to finde some place aboute Hudson's river for their habitation."

H.—1853—BRODHEAD

History / of the / State of New York / by / John Romeyn Brodhead / First Period / 1609-1664 / New York / Harper and Brothers / 1853. Second Volume 1871.

Has a map giving names of Hudson River and dates when applied.

P. 42. Reference to Hudson and his death—footnote gives subsequent career of the yacht Half-Moon which was finally wrecked and lost on the island of Mauritius.

H.—1856—BRODHEAD—O'CALLAGHAN

Documents / Relative to the / Colonial History / of the / State of New York / Procured in / Holland, England, and France / By / John Romeyn Brodhead, Esq. / Agent / under and by virtue of an act of the legislature, etc / Edited by / E. B. O'Callaghan M.D., LL.D. / With a general Introduction by the Agent / Albany / Weed, Parsons and Company, Printers / 1856. **HOLLAND DOCUMENTS—2 volumes—1603 to 1656 and 1657 to 1678. 12 x 9².**

Vol. I. has frontispiece. Map (reprint) 1621 by Anthony Jacobsz., giving "R. Mauritius" for Hudson.

There are 14 volumes of this History—2 Holland Documents, 8 other documents and 4 of a later series.

Vol. I. 271—Remonstrance of New Netherland and the Occurrences there, Addressed, to the High and Mighty Lords States General of the United Netherlands, by, The People of New Netherland on the 28th of July 1649.

275—"Representation of New Netherland as regards its Location, Productiveness, and Poor Condition—first found by the ship de Halve Mane whereof Henry Hudson was master and factor."—Named New Netherland.—564—Memoir of the English encroachments on New Netherland (From the MS. in the Royal Archives at the Hague). Boundaries stated—First discovered by "Hendrick Hudson, skipper and merchant, in the ship the Halve Maene."

Vol. II. 133—Deduction, or, Brief and Clear account of the situation of New Netherland; who have been its first Discoverers and possessors, together with the unseemly and hostile usurpation committed by the English neighbors, etc. etc.—First discovered by the Netherlands, as its name imports, at their own cost, by means of one Hendrick Hudson, skipper and merchant, etc.—400—The English to prove prior claim read "a collection from divers histories, which, he said, proved that this place had been long before discovered by the English, and that Hendrick Hudson had discovered the North River in 1603, when in the service of the English, etc."

H.—F.—(1907)—BRUCE

The Hudson—Wallace Bruce—7⁴ x 5—pp. 224.

P. 7. Mention of early visitors to Hudson River.

P. 8. Robert Fulton and his predecessors.

F.—(1907)—BUCKMAN

Old Steamboat Days / on the Hudson River / Tales and Reminiscences of the stirring / Times that followed the introduction of Steam Navigation / by / David Lear Buckman / The Grafton Press (1907) New York.

This work is very full in its information on Fulton, giving a great amount of detail concerning his life, family, inventions, and affairs generally. It also gives, p. 8, a half-tone cut from a photograph of the original portrait of Fulton painted by Benjamin West. P. 12, picture of the

Clermont. Tells how the new steamer was intentionally obstructed by sailing craft, etc., etc. Renamed the North River.

Appendices I to VI give further details.

H.—1848—BUTLER

Outline / of the / Constitutional History of New York / an / Anniversary Discourse Delivered at the Request of the New York Historical Society, in the City of New York / November 19th 1847 / by Benjamin Franklin Butler / Collections of the New York Historical Society / Second Series / Volume II. New York 1848-49.

P. 13. Territory discovered by Hudson in 1609 and explored by the Dutch between that date and 1614 together with the seacoasts, between the fortieth and forty-fifth degrees of north latitude, received in 1614, from the charter of the States General of the United Provinces, the name of New Netherlands. Right of trade was vested in the "United New Netherland Company." See the charter, in O'Callaghan's History of New Netherland, Vol. I., p. 74.

H.—1853—CARPENTER

The History of New York / from its / Earliest Settlement to the Present Time / by W. H. Carpenter and T. S. Arthur. Philadelphia, Lippincott Grambo & Co. 1853.

P. 29-48. Hudson's career reviewed. P. 35. First view by natives of Hudson's approach, Indian legend,

H.—1632—CHAMPLAIN (Reprint)

Map of New France, reduced, in Volume III, Documentary History of New York—gives Hudson River with the name "Riviere des trettes."

H.—1894—CHRISTEY

The Voyages / of / Captain Luke Foxe / of Hull / and / Captain Thomas James / of Bristol / In search of a North-west Passage / in 1631-32 / With narratives of the Earlier North-west voyages of / Frobisher, Davis, Weymouth, Hall, Knight, Hudson, Button, Gibbons, Bylot, Baffin, Hawkridge, and others. / Edited with notes and an Introduction / by / Miller Christey, F. L. S. In two volumes.—London—Hakluyt Society MDCCCXCIV. 9 x 5⁵. pp. ccxxxi + 681.

Vol. I p. vii et seq. Hudson not the first at entrance to Hudson's Bay. Plancius submits logbooks of Weymouth to Hudson. Of Hudson's life and works.

P. 114. "An Abstract (from Foxe) of the Voyage of Master Henry Hudson to the North-West, begun the 17th of Aprill, 1610 and ended with his life, being treacherously exposed by some of his Company." (With notes by Christey.)

Footnote (Christey) as to later data on Hudson in Trinity House.

See Appendix A, Vol. II, p. 629.

H.—1732—CHURCHILL.

A / Collection / of / Voyages and Travels / Some / Now first Printed from *Original Manuscripts* / Others / Now first published in English / In Six Volumes / etc., etc., / London / Printed by Assignment, from Messrs Churchill, / for etc., etc., etc. / MDCCXXXII—13⁷ x 8⁶.

Vol. III. Contains Sir W. Monsen's "Naval Tracts." See Monsen, this catalogue.

H.—1841—COGSWELL

The / Voyage / of / John de Verazzano / Along the Coast of / North America / from Carolina to Newfoundland / A. D. 1524 / Translated from the original Italian / by Joseph G. Cogswell, Esq. / Member of the New York Historical Society, &c. / Collections / of the / New York / Historical Society / Second Series / Volume I. / New York / Printed for the Society / 1841—4^o—9³ x 5⁵ pp. iv + 486.

P. 45. Verazzano's discovery of the river now called Hudson, 1524.

P. 55 et seq. Reprint of MS. copy of the original Verazzano letter found at Florence, Italy. (See also North American Review, October, 1837; *The Life and Voyages of Verazzano*.)

F.—1817—COLDEN

The / Life / of / Robert Fulton / By his Friend / Cadwallader D. Colden / Read before the Literary and Philosophical Society of New York / Comprising Some Account of the Invention, Progress, and / Establishment of Steamboats: of Improvements in the / Construction and Navigation of Canals: and / other objects of Public Utility / With an Appendix / New York / Published by Kirk and Mercein / No. 22 Wall Street / 1817/. 8⁴ x 5²—pp. 371.

Engraved frontispiece of Fulton, "Miss Emmett, pinxit, W. S. Leney, sculpsit."

Mr. Colden was an intimate friend of Fulton's, hence this biography has particular value as a source of information. Mr. Colden relates the attempt to destroy a British ship on the coast of France to demonstrate the efficacy of Fulton's newly invented torpedo, tells of the address to Napoleon, the appointment of a committee to examine into the merits of the invention and the results. Describes Fulton's submarine boat and the inventor's remaining under water in it for more than four hours. Barlow's "Columbiad" illustrated under Fulton's supervision. Sketching in Holland. British Commission appointed to examine his projects. Blows up a brig. Criticises Parkinson's "A Tour in America." Appropriation by Congress for torpedo experiments. Invents a "cable-cutter." Develops steam propulsion for boats. Claims stated of various other inventors. Success of the Clermont. Exposes a perpetual motion fraud. Builds ferry-boat. Plans a steam war vessel. P. 257. Description of Fulton. P. 247. List of steam vessels built under his direction or according to his plans. Reigart plagiarized wholesale this work in his *Life of Fulton*.

H.—1846—COOLEY

The / History of Maritime / and / Inland Discovery (W. D. Cooley) Vol. II. London, Longman, Brown, Green and Longman's, 1846. 8°—7 x 4². pp. xiii + 356.

P. 164. Hudson supposed to be the first Englishman who made observations on the dip or inclination of the magnetic needle. P. 165. Made many observations with the dipping needle or "inclinator." Résumé of his voyages.

H.—1763—COTTELLINI

Il Gazzettiere Americano, etc.—Marco Cottellini. MDCCLXIII—3 vols. 12⁵ x 9⁶.

Vol. II, p. 85. Fiume di Hudson—description.

H.—1880—DE COSTA

Verrazano the Explorer / Being a Vindication of His / Letter and Voyage / With an Examination of the / Map of Hieronimo da Verrazano / And a Dissertation upon the Globe of Vepius / To which is prefixed a Bibliography of the Subject / By B. F. De Costa / New York /, A. S. Barnes & Company / 1880. 4°—pp. v. + 82—10⁶ x 8⁵.

P. 30-31. Verrazano at the Bay of New York and Hudson River, 1524.

H.—1608—DE COSTA

(Reprint) Sailing Directions / of / Henry Hudson / prepared / for his use in 1608 / from the / Old Danish of Ivar Bardsen / with / an Introduction and Notes / also / a Dissertation on the Discovery / of the Hudson River / by the / Rev. B. F. De Costa / Albany / Joel Munsell / 1869. With a critical introduction.

H.—1625—DE LAET

(First Edition) Nieuuwe Wereldt / Ofte / Beschrijvinghe / van / West-Indien / Wt veelderhande Schriften ende Aen-teeckeninghen / van verscheyden Natien by een versamelt / Door Joannes de Laet / Ende met / Noodighe Kaerten ende Tafels voorsien / Tot Leyden / In de Druckerye van Isaack Elzevier / Anno 1625 / Met Privilegie der Ho. Mo. Heeren Staten Generael, voor 12, Jaren. 13⁴ x 8⁶—pp. 510.

Pp. 83-88. Voyages of Hendrick Hudson.

P. 84. Mention of Rievier de Montaines—afterward Hudson's River.

P. 87.—"De groote Noordt rievier van Nieuwv-Nederlandt."

P. 89. Extract from Hudson's journal.

See also Asher, *Henry Hudson*—pp. xxix and 154.

H.—1630—DE LAET

(Second Edition) Beschrijvinghe / van / West-Indien / door / Joannes de Laet / Tweede druck / In ontallijcke plaetsen / verbeter, vermeerderd, met eenige / nieuwe Caerten, beelden van /

Descriptio ac delineatio Geographica

DETECTIO- NIS FRETI

Sive, Transitus ad Occasum suprà
terras Americanas, in Chinam
atq; Iaponem ducturi.

Recens investigati ab M. Henrico Hudsono Anglo.

Item,

Exegesis REGI HISPANIÆ facta, super
tractu recens detecto, in quintâ Orbis parte, cui nomen
AVSTRALIS INCOGNITA.

Cum descriptione

Terrarum *Samoiedarum*, & *Tingoesiorum*, in
Tartariâ ad Ortum Freti VVaygats sitarum, nuperq;
sceptro Moscovitarum adscitarum.



AMSTERODAMI

Ex Officina Hesselij Gerardi. Anno 1613.

Facsimile of title-page of Latin edition of Gerritsz from Muller's 1878 reprint.

verscheyden dieren ende / planten verciert. / Tot Leyden bij de Elzeviers. A°. 1630 12 x 8. pp. 622—fol.

Map f. p. 88.—Nova Anglia, Novum Belgium et Virginia—shows "Noordt Rivier." P. 100. Hendrick Hudson and his voyages.

H.—1633-1640—DE LAET

(Reprint) / Extracts / From / The New World / or / A Description of the West Indies / by / John de Laet 1633-1640—Translated into English by George Folsom.

Collections of the N. Y. Historical Society, 2d Series, Vol. I—1841.

P. 289. The first discovery and general description of that part of the country called by our countrymen, New Netherlands.

P. 290. The yacht Half-Moon sails 1609 under command of Henry Hudson to seek a passage to China by the northeast. Names Cape Cod, New Holland. Description of course. P. 291. Discovers the great river and ascends it. The "Great River of the Mountains." P. 297. North River called by some Manhattes river; by others Rio de Montaigne, "but by our countrymen" generally the Great River. Description of the river.

P. 299. Henry Hudson, first discoverer—his description of the people; p. 300, of the country—of the fish.

P. 305. Résumé of Hudson's 1609 voyage—he called the river Manhattes.

P. 308-309. Names of the Hudson—Description of the river and its inhabitants.

H.—1633—DE LAET

NOVVS ORBIS / seu / DESCRIPTIONIS / INDIAE OCCIDENTALIS / Libri XVIII / Authore / JOANNE DE LAET ANTVERP / Novis Tabulis Geographicis et variis / Animantium, Plantarum, Fructuumque / Iconibus Illustrati / CVM PRIVILEGIO / LUGD. BATAV. apud ELZEVIRIOS. A°. 1633. 13⁷ x 8⁶ = pp. 690.

F. p. 63. Map showing the "Noordt Rivier."

P. 70. Chap. 7, Book III.—Mention of the expedition of "Henricum Hudsonum, Anglum."

H.—1878—DETECTIO FRETI HUDSONI

(Reprint) / or Hessel Gerritsz's Collection of tracts etc. 1612. / Amsterdam / Frederick Muller & Co. 1878. See Millard—Muller.

H.—1594-1596—DE VEER

(Reprint) / The Three / Voyages of William Barents / to the / Arctic Regions / (1594, 1595, 1596) by Gerrit De Veer—See Beke and Koolemans Beynen.

H.—1850—DOCUMENTARY HISTORY OF NEW YORK.

See O'Callaghan and Brodhead.

H.—1656—DONCK

(Reprint) A / Description / of the / New Netherlands / (As the Same are at the Present Time) / comprehending / The Fruitfulness and Natural Advantages of the Country (&c) / Together with remarks on the Character and Peculiar / Customs of the Savages or Natives of the Land; / also, / A Particular Description of the Wonderful Nature / and Habits of the Beaver (&c) / Written by / Adriaen Van der Donck / Doctor of Both Laws, at present in the New Netherlands / To Which are Added / The Regulations of the Affairs of the Country by the / Council of the City of Amsterdam, etc. / The Second Edition / With a Map of the Country / At Amsterdam / published by Evert Nieuwenhof, Bookseller. / Anno Domini, 1656. English translation, by Jeremiah Johnson. P. 129 et. seq. in Collections of the N. Y. Historical Society, 2d. Series, Vol. I.—1841.

P. 136. "Hendrick Hudson" and his discovery. Hudson "had resided many years in Holland."

P. 137. Natives did not know other people existed till they saw the Half-Moon and her crew. Impression formed on the natives.

P. 190 et seq. describes the manners, food, clothing, etc., of the natives. See also Asher *Henry Hudson*, pp. xxxvii and 167.

H. F.—1872—DRAKE

Dictionary / of / American Biography / supplement / by / Francis S. Drake. Boston. James R. Osgood & Co. 1872.

Fulton, p. 345.

Hudson, p. 460.

H.—1646-47—DUDLEY

(Reprint) Arcano del Mare of Robert Dudley, Duke of Northumberland—Printed at Florence in two volumes, 1646-47. Twelve selected charts referring to North America. Blue-print copies from the originals belonging to Harvard University.

Carta II. gives "R. Marvins & R. Hudson."

Carta Seconda Generale gives "Newe England" with "R. Hudson."

H.—1830—EASTMAN

A / History / of the / State of New York / from the / First Discovery of the Country / to the / Present Time / with a / Geographical Account of the Country / and a / View of its Original Inhabitants / by F. S. Eastman / New York / Augustus K. White / 1830. 12°—7⁷ x 4⁵—pp. 456.

P. 79-90. Résumé of Hudson's voyages—including the "Iroquois" story of the first coming of the white man—the impression the ship made on them.

H.—1746-1747—ELLIS

/A / Voyage / to / Hudson's Bay/ by the / Dobbs Galley and California / In the years 1746 and 1747 / for Discovery of a / Northwest Passage / etc. By Henry Ellis, Gent., Agent, etc. to which is prefixed / an historical Account of the Attempts hitherto made / for the finding a Passage that way to the East Indies / etc. etc. / London/ Printed for H. Whitridge at the Royal Exchange / MDCCLXVIII.

P. 27 et seq. gives an account of Hudson's voyages.

H. F.—1878—ENCYCLOPEDIA BRITANNICA (9th Edition)

Vol. 12, p. 331. Hudson River. P. 332.—Henry Hudson—"Molineux's chart published by Hakluyt about 1600 was Hudson's blind guide on this (1607) voyage." Plancius gives him Weymouth's journals, and Hondius supplies him with translations of certain Dutch papers. An excellent résumé of Hudson's career.

Vol. 32, p. 541. Fulton sees the success of the Charlotte Dundas in Scotland after his own experiments in France.

H.—1899—FISKE.

The Dutch and Quaker / Colonies in / America / by / John Fiske / In two Volumes. Boston. Houghton, Mifflin & Co. 1899.—Vol. I 8 x 5—pp. 294.

P. 58 et seq. As to Hudson being the first discoverer of Hudson River. P. 64. Verrazano in New York Harbor.

P. 68. The visit of Gomez.

P. 71. Hudson called River of Norumbega.

P. 80-81. Hudson genealogy.

82-94. Henry Hudson, his voyages and his fate—his achievements.

H.—1786—FORSTER

History / of the / Voyages / and / Discoveries / made in the / North / Translated from the German of / John Reinhold Forster, I. U. D. / And elucidated by several / New and original maps / London / Printed for G. G. J. & J. Robinson, Pater-Noster-Row / MDCCLXXXVI 11² x 8⁶ pp., 489.

Pp. 324-345. Story of Hudson's voyages of 1607-1608-1610.

P. 421. Hudson, 1609, sets sail from the Texel, and discovers Hudson River.

F.—1906—FULTON TRUST CO.

Life of / Robert Fulton / New York / (1906) / 8 x 5³, pp. 16.

H.—1892—FISKE

The / Discovery of America, / etc. by John Fiske—In two volumes. Boston, Houghton, Mifflin & Co. 1892.

Vol. I, p. 239. Description of Greenland written by Ivar Bardsen—translated into Dutch by Barentz. An English translation made for Hudson. See Purchas Vol. III, p. 518; Rafn, *Antiquitates Americanæ*,

pp. 300-318; De Costa, *Sailing Directions of Henry Hudson*, pp. 61-96; and Boty, this catalogue.

Vol. II. 546-547. *Résumé of Hudson's voyages.*

H.—1635—FOX

(Reprint) NORTH-VVEST Fox / or / Fox *from the North-west passage* / BEGINNING / VVITH KING ARTHUR, MALGA, OCTHVR / the two ZENIS of *Iseland, Estotiland, and Dorgia*; / Following with briefe Abstracts of the Voyages of *Cabot, / Frobisher, Davis, Weymouth, Knight, Hudson, Button, Gib- / bons, Bylot, Baffin, Hawkridge*: Together with the / Courses, Distance, Latitudes, Longitudes, Variations, / Depths of Seas, Sets of Tydes, Currents, Races, / and over--Falls; with other Observations, Accidents / and remarkable things, as our Miseries and / sufferings /

MR. JAMES HALL's three Voyages to *Groymland*, with a / *Topographical description of the Countries, the Salvage's / lives and Treacheries*, how our men have beene slayne / by them there; with the Commodities of all those / parts, whereby the Marchant may have Trade, and / the Mariner Employment. / *Demonstrated in a Polar Card, wherein are all the Maines, Seas, and Ilands, herein mentioned.* / With the Author his owne Voyage, being the XVith; / with the opinions and Collections of the most famous Ma- / thematicians, and Cosmographers; with a Probabilitie to / prove the same by Marine Remonstrations, compa- / red by the Ebbing and Flowing of the Sea, experimented / with places of our owne Coast. / By *Captaine LVKE FOXE* of Kingstone *upon Hull*, Capt. / and Pylot for the Voyage, in his Majesties Pinnace / the *CHARLES*. / Printed by his Majesties Command. / LONDON. / Printed by B. ALSOP and THO. FAVVCET, dwelling in *Grubstreet* / 1635.—4°—Map. 9 x 5⁵ pp. 445.

P. 114 et seq.—“An Abstract of the Voyage of Master Henry Hudson to the Northwest begun the 17th of Aprill, 1610, and ended with his life, being treacherously exposed by some of his Company.” Accompanied in this Hakluyt Society's reprint by many notes by the editor, Miller Christey. The Abstract contains Prickett's “Larger Discourse,” p. 120. See Asher Henry Hudson, p. 180.

F—1866—FRANCIS

Old New York / or / Reminiscences / of / The Past Sixty Years / by / John W. Francis, M.D., LL.D. / New York. / W. J. Middleton—MDCCCLXVI.

Pp. 75-80. Robert Fulton—his services to the New York Historical Society—description of dress and person and general character—termed “Crazy Fulton”—ridicule of his project—death of, 24th Feb., 1815.

P. 277. Patron of the American Academy of the Fine Arts.

H.—1899—FISKE

The Dutch and Quaker / Colonies in / America / by / John Fiske /
In 2 vols. Vol. I—Boston and New York/. Houghton, Mifflin &
Co. 1899—Chapter IV—Verrazano and Hudson.

F.—1860—FRENCH

Gazetteer / of the / State of New York / embracing etc., etc., etc.,
/ By/ J. H. French / Illustrated etc. / Syracuse N. Y. / Published
by R. Pearsall Smith / 1860. 10¹ x 6⁵—pp. 739.

P. 82. Tables of steamship and ferry companies. Sole rights granted John Fitch, by act of March 19, 1797 (1787?), for steam navigation in the waters of the state for a period of fourteen years. After ten years as he had done nothing this act was repealed. An act was passed March 27, 1798, granting to Robert R. Livingston the sole right for twenty years with conditions. The Livingston right was extended, 1808, 5 years for each new boat built, but not to exceed 30 years. See Johnson's Reports, IV, 148; Cowan's Reports, III, 713; Wheaton's Reports, IX, 1.

P. 559. Footnote quotation from Everett's address, inauguration of Dudley Observatory, on Hudson's finding numerous Indians "on the evening of the 15," but fearing to remain on shore with them.

F—1879—FULTON FERRY

Historical Sketch / of the / Fulton Ferry / and its / Associated
Ferries / by a Director / Printed for the private use of the com-
pany. Brooklyn 1879. 10⁴ x 6⁵—pp. 158.

Frontispiece—Statue of Fulton (photograph). 26. Fulton's connection with the establishment of steam ferryboats. 27. Extent of the monopoly of the waters of New York by Robert Fulton and Robert R. Livingston. 28. Picture of New York and Brooklyn ferry. 35. Death by pneumonia of Fulton. Opp. 36. Picture of Fulton ferryboat "Wm. Cutting," built in 1827, and of the "Olive Branch," 1836.

H.—1613—GERARDI

(Reprint) / Descriptio ac delineatio Geographica / Detectio—/ nis
Pretri/ Sive, Transitus etc. / Amsterodami / Ex Officina Hesselij
Gerardi, Anno 1613 /. See 1878—Millard—Muller; and facsimile of the title-page herewith.

H.—1612—GERRITSZ

(Reprint) Beschryvinghe / vander / Samoyeden Landt etc.
by Hessel Gerritsz—See Millard-Muller 1878; and facsimile of title-page herewith.

F.—1899—GOODWIN

Historic New York.—Being the Second Series of the Half Moon Papers. Edited by Maud Wilder Goodwin / Alice Carrington Royce, / Ruth Putnam/ and Eva Palmer Brownell / New York and London / G. P. Putnam's Sons. 1899.

P. 184. Reference to the Kennedy house formerly on site of No. 1 Broadway as the place where Robert Fulton lived and died.

H.—1626—GOOS

Sheet map by Abraham Goos, Amsterdam, "America with those known parts in that unknowne worlde, both people and manner of buildings. Described and enlarged by I. S. Ano 1626" (original).

Gives North and South America with "Hudson's Rio." This map was printed only 17 years after Hudson's 1609 visit to the river. It is not as early a mention of Hudson River however as one in Purchas, Vol. III. (1625), pp. 852-853, which gives, "Hudson's R."

H.—1669 (?)—GOOS

Pas caerte van / Nieu Nederlandt / en de Engelsche / Virginies / Van Cabo Cod tot Cabo Canrick / —by P. Goos.—17 x 21 (original).

Gives mouth of Hudson as "Noort Rivier ofte Maurits Rivier."

H.—1834—GORDON

The / History / of / New Jersey / from its / Discovery by Europeans / to / the Adoption / of the / Federal Constitution / by / Thomas F. Gordon / Trenton / Daniel Fenton / 1834.

Pp. 5 and 6. Explorations of Hudson mentioned. Description (from Purchas) of his entrance to New York Bay. Appendix A—333—Note A. Names of the Hudson and Delaware Rivers. (See also Asher's Henry Hudson, 257.)

H.—1890—GRAVIÈRE

Les Anglais / et / Les Hollandais / dans les mers polaires et dans la mer des Indes / par le Vice-amiral, Jurien de la Gravière / Tome Second / Paris. / E. Plon, Nourrit et Cie. 1890.

Pp. 252-298. Discussion of Hudson and his voyages, etc. Hudson's vessel described—the sailors called the Hudson the "North River." Gomez, 1525, called it "la rivière des Daims o Rio de Gamas."

H.—1909—GRIFFIS

The Story of New Netherland by William Elliot Griffis—Boston—Houghton, Mifflin & Co—1909.

Chap. I. Reviews Hudson's career.

P. 11. The several names of Hudson River.

F.—1837—HALL

Statistics of the West / at the close of the year 1836 / by / James Hall / Cincinnati / J. A. James & Co. / 1837 /

P. 229. Fulton predicts steam transportation across country, even mountains.

H.—1847 + ; HAKLUYT SOCIETY

Works (Reprints) issued by—One hundred volumes in the first series—1847-1898;—Second series 1899+. Extra series, contains Purchas (Glasgow Reprint).

These volumes cover the ground of early explorations as given in Hakluyt, Purchas, etc. See Purchas.

Beschryvinghe
Vāder
Samoyeden Landt
in Tartarien.

Nieuwicks onder 't ghebiedt der Moscoviten gebracht.

Wt de Russche tale overgheset, Anno 1609.

Met een verhael

**Wande opsoeckingh ende ontdeckin-
ge vande nieuwe deurgang ofte straet int Noord-
westen na de Rijcken van China ende Cathay.**

Ende

**Een Memoirael gepresenteert aenden
Coningh van Spaengien / belanghende de ont-
deckinghe ende ghelegenhert van 't Land ghe-
naemt Australia Incognita.**



**t Amsterdam/ by Hessel Gerritsz. Boeckvercooper/ope
Water/inde Vasttaert / Anno 1612,**

Facsimile of title-page from Muller's 1878 reprint of first edition, 1612, of Hessel Gerritsz's book. See Asher's *Henry Hudson*, pp. xlv and 181-193.

H.—1748—HARRIS

Navigantium atque Itinerantium Bibliotheca / Or a / Complete Collection / of / Voyages and Travels / Consisting of Above / Six hundred of the most authentic writers / etc. etc. Originally published in Two volumes in folio, by John Harris, D. D., and F. R. S. Revised Edition / London / MDCCXLVIII.

Vol. II, p. 223. An account of George Weymouth's discovery of the most beautiful river in America, 1605; p. 280—"But before it (North Virginia) could be settled, that is about the year 1608, the famous navigator Hudson discovered that river, which has since borne his name, and the country adjacent, which he afterwards sold to the Dutch."

H.—1900—HARRISSE

Découverte / et / Évolution Cartographique / de / Terre-Neuve / et des / Pays Circonvoisins / 1497-1501-1769 / Essais de Géographie Historique et Documentaire / Par / Henry Harrisse / London, / Henry Stevens, Son & Stiles / Paris. / H. Welter / MDCCCC / 11³ x 8⁶ pp. lxxii + 420.

Pp. xxxix-xl. Mention of Hudson on the N. E. coast of America—reference to Juet's narrative in Purchas 1625, Vol. III, p. 585-586. (See Henry Hudson—Asher—p. 59-60).

P. 109. Hudson estimated as a discoverer of the N.E. coasts of America.

H.—1900—HART

American History told by / Contemporaries. / Vol. I / Era of Colonization / 1492-1689 / Edited by / Albert Bushnell Hart / New York / The Macmillan Co. / 1900/

Chap. V, p. 121. On Hudson's career. Mentions in chapter heading the discovery of the Hudson River in "1607." The error is one of proof-reading as the correct date is given in the first line following.

H.—1869—HARTWIG.

The Polar World / A Popular Description of / Man and Nature / in the / Arctic and Antarctic Regions of the Globe / by Dr. G. Hartwig / author of etc / With additional Chapters and One hundred and Sixty-three Illustrations / New York / Harper & Brothers, Publishers 1869. 8°, pp. xvi—486.

P. 342-343. Résumé of Hudson's voyages.

H.—1819—HECKEWELDER

An Account / of the / History, Manners, and Customs / of the / Indian Nations / who once inhabited Pennsylvania and / the Neighboring States / by the / Rev. John Heckewelder / of Bethlehem / Philadelphia / Printed and Published by Abraham Small / No. 112 Chestnut St.,—1819. Memoirs of the Historical Society of Pennsylvania. Vol. XII—Philadelphia. 1876.

P. xxxv. The Delawares who first received and welcomed the whites

to New York (The Delawares were the Lenni-Lenape and were of Algonquin stock)

P. 71-75. Indian account of the first arrival of the Dutch at New York Island. (Hudson's arrival.)

H.—1841—HECKEWELDER.

Indian Tradition / of the / First Arrival of the Dutch / at / Manhattan Island / now New York / Rev. John Heckewelder—
P. 69. Collections of the New York Historical Society—2d Series, Vol. I.

H.—1612—HESSEL, GERRITSZ

Map, showing Iceland, Greenland, Hudson Bay, etc. In *Detectio Freti Hudsoni* (q. v.), a reproduction.

In Henry Hudson the Navigator—Asher, (q. v.,) reproduction.

This is the map made from Hudson's own charts brought back by the mutineers. On the back of it was printed an account of Hudson's fourth voyage. Facsimile of a page is given herewith.

See Millard-Muller for reprint of Gerritsz's book.

H.—1682—HEYLYN—

Cosmographie / in foure / Books / Contayning the / Choro-graphie & Historie / of the whole World and all / the Principall Kingdomes / Provinces, Seas and / Isles Thereof / by Peter Heylyn / Vigil Aeneid / . . . The 6th Edition / corrected and Inlarged by the Author / London / Printed for T. Passenger, / B. Tooke, & T. Sawbridge / 1682—With Appendix on Unknown Parts of the World. 13⁵ x 8⁵ pp. 562. Also editions of 1575, 1669 and 1703.—The 1669 edition has a map by Robert Vaughan, giving "Hudson's bay" opposite the mouth of Hudson River. This map is republished in the subsequent editions, all of which appear to be practically the same. See also Vaughan.

P. 96, 4th Book, says Hollanders "had some better title than a bare intrusion, having bought Hudson's charts and maps and otherwise contented him for the charge and pains of his Discovery An. 1609, of which more anon."

"Manhattes River by some called Nassovius but by the Dutch commonly called Noordt River, which falleth into the sea at May-port so called by Cornelius May," etc.

"Hudson an Englishman had spent some time in the Discovery of this country and given his name to one of the rivers of it . . . with him the Hollanders Anno 1609 . . . compounded for his charts and maps and whatsoever he could challenge in the right and success of that his voyage." The English disputed possession on the ground that Hudson being an Englishman could not alienate or dismember it from the Crown, it being a part of Virginia.

H.—1758-59—HISTOIRE GÉNÉRALE

des Voyages/. Tome Quinzième. / A Paris / Chez la veuve Didot,

Quai des Augustins, à la Bible d'or / MDCCLIX.

Voyages of Hudson, pp. 140-143.

Map of Iceland, Greenland, etc., 1758.

H.—1861—HOEFER

Nouvelle Biographie Générale / depuis / Les Temps les plus Reculés / jusqu'à nos jours / . . . publiée par / MM. Firmin Didot Frères / sous la direction / de M. Le Dr. Hoefer. / Tome Vingt-Cinquième / Paris / Firmin Didot Frères, Fils et Cie, Editeurs / etc. / MDCCCLXI.

P. 370. Sketch of Hudson's career.

H.—1603-1678—HOLLAND DOCUMENTS

(Reprints) see Brodhead and O'Callaghan.

H.—1829—HOLMES

The / Annals of America / from / The Discovery by Columbus in the year 1492 / to / the year 1826 / by Abiel Holmes, D. D. etc. / Second Edition / In two volumes. / Cambridge, / Hilliard and Brown / 1829—9⁴ x 5⁵. Also First Edition, in which note alluded to is on p. 143—Vol. I.

Vol. I, 135—Brief résumé of Hudson's voyages—"Hudson can hardly be called the first discoverer of a coast which had been often explored before." 136. —References in footnote. 140-141—Hudson's 1610 voyage—footnote refers to p. 571, Note XX, a quotation from Sir W. Monson, who received his information directly from "the mouth of the master that came home from Hudson." See Monson, this catalogue.

H.—1611—HONDIUS

Map—(Reprint)—Map of the World / by Jodocus Hondius / 1611 / Edited by Edward Luther Stevenson Ph. D. / and / Joseph Fischer S. J. / Facsimile / Issued under the joint auspices of / The American Geographical Society / and / The Hispanic Society of America / New York / 1907 / —Portfolio with accompanying pamphlet of text, pp. 20.

On the top section of the Western Hemisphere written on the East Greenland coast occurs this sentence:—"Glacies ab Hudsono detect(a) Anno 1608." See also note on page 12 of the accompanying text.

H.—1657—JANSSON

Belgii Novi / Angliæ Novæ et Partis / Virginæ / Novissima Declinatio / by "Joannes Janssonius" (original).

This map is a copy of Visscher but without the view of New Amsterdam.

H.—1903—JANVIER

The Dutch Founding / of New York / by / Thomas Janvier. / New York / Harper & Brothers / 1903.

Pp. 5-7. Reference to Hudson's report on fur-yielding possibilities of the new country.

H.—1644—JOGUES

(Reprint) *Novum Belgium* (1644) Description de Nieuw Netherland et Notice sur René Goupil, par le R. P. Isaac Jogues de la Compagnie de Jésus. New York, J. M. Shea 1862.

P. 9. Refers to "River Nassau ou la grande Rivière du Nord"—or Riviere Maurice. Map shows "Noordt Rivier."

H.—1644—JOGUES

(Reprint) A Description of New Netherland in 1644 by Father Isaac Jogues—in *Documentary History of New York*, Vol. IV.—Albany 1851.

See also Shea reprint.

P. 115. Gives limits of New Netherland and mentions Hudson as the first discoverer. Describes "Manhattans or Great River." View of New Amsterdam, f. p. 116.

H.—1625—JUET

The Third Voyage of Master Henrie Hudson towards Nova Zembla, . . . and along the coast (of America) . . . to fortie-two degrees and a half and up the River (Hudson) neere to fortie three degrees. Written by Robert Juet of Limehouse. See Purchas (1625), vol. III, p. 381; the "Glasgow" reprint; Asher's Henry Hudson, etc.

H.—1700 (?)—KEULEN

Pas-Kaart / vande Zee Kusten van / Niew Nederland / Anders Genaamt Niew York / Tusschen / Renselaars Hoek en de Staaten Hoek / Door Vooght Geometra / T ' Amsterdam By / Johanniss Van Keulen / (1700?) 21 x 23 (original).

This map has an inset on a larger scale from Sand Hoek to "Port Orange, Albany." "De Noord Rivier anders R. Manhattans off Hudsons Rivier in t' Groodt."

H.—1768—KNOX

A New / Collection / of / Voyages / Discoveries and Travels, etc. / London / J. Knox / MDCCLXVIII.

Vol. II. p. 108. et seq.—on New York.—says the Dutch paid "no regard to the claim of the English who had not only discovered but traded to it (Hudson region) before."

H.—1862. KOHL

A Popular History / of the / Discovery of America / From Columbus to Franklin / By J. G. Kohl / Translated from the German / By Major R. R. Noel / In two volumes / Vol. II. / London / Chapman and Hall / 193 Piccadilly / 1862 8°—8 x 5, pp. vi + 284.

P. 7. Spaniards called "New York and the Hudson River, 'the Harbour of St. Antonio.'"

P. 37. Hudson discovers the river—a wild mountain chasm filled with water—regales inhabitants with "Dutch beer."

H.—1885—KOHL

History of Discovery and Exploration on the Coasts of the United States, / by J. G. Kohl, Ph. D./Appendix No. 19.—Report of the Superintendent / of the / U. S. Coast and Geodetic Survey / for 1884. Washington 1885.

P. 510. Henry Hudson, 1609—Résumé of Hudson's voyage in its historical relationship to previous and following expeditions.

P. 512. Table of maps of Atlantic Coast of North America, published between the years 1500 and 1770.

H.—1869—KOHL

A History / of the / Discovery of the East Coast of North America / Particularly the Coast of Maine: / From the / Northmen in 990, / to the / Charter of Gilbert in 1578 / by J. G. Kohl / of Bremen, Germany / Illustrated by copies of the Earliest Maps and Charts. = In / Documentary History of the State of Maine / Edited by / William Willis. / Vol. I. Collections of the Maine Historical Society—Second Series. Portland / Bailey and Noyes / 1869.

This volume traces the discovery step by step, presents reproductions of the maps of each period beginning with the Zeno map of 1400, and gives an able analysis.

P. 257 and 258. Verrazano at New York Bay and the Hudson River 1524. Analysis of the identification.

P. 306. Rio de San Antonio—early name for Hudson River.

310. Oviedo's description of the Rio de San Antonio an accurate one of Hudson River. Name probably derived from Gomez.

See also Gomara, *Historia de las Indias*, fol. xx, Saragossa, 1553.

P. 314. Rio de San Antonio name given by Gomez to the Hudson River (1525).

See Stevenson for reprint of map with Rio de San Antonio.

H.—1816—LAHARPE

Abrégé / de / L'Histoire Générale des Voyages / par J. F. Laharpe. / Tome Quinzième Paris, Ledoux & Teuré—1816. (Also 1780 Ed.)

P. 383 refers to Hudson's voyages.

Tome Seizième refers to Hudson's voyages, p. 6-7.

H. F.—(1877)—LAMB

History / of the / City of New York / Its Origin, Rise, and Progress / by / Mrs. Martha J. Lamb / Illustrated. / In two volumes/. New York and Chicago. A. S. Barnes & Company. 10⁵ x 7⁵.

Hudson. Vol. I, Chapter II, p. 26. Sketch of Henry Hudson and his four voyages.

Fulton. Vol. II, P. 424. First trial of John Fitch's steamboat with screw propeller on Collect Pond; picture opposite. Fulton in England.

P. 426. First steam engine ever erected on continent of America, 1753.

P. 427. Fulton aged 12 goes to home of William Henny who had failed in experiments on steam propulsion. Benj. West a friend of Henny. Fulton's experiments. P. 531. First steamboat on the Hudson and where built; the start. P. 532. Fuel used. Picture of Clermont opposite. P. 533. Fulton in England and France. Trial on the Seine. Livingston a backer of Fulton. Description of Fulton. P. 534. Wood-cut of Benj. West. Portrait of Fulton. Marries Harriet Livingston. Stevens experiments. P. 536. The "Phoenix" excluded from waters of New York goes by sea to the Delaware in June, 1808. P. 538. Fulton's ferry-boats. Plans steam frigate. Death of Fulton. P. 580. Name added to Board of Canal Commissioners, 1811. P. 703. Toast to Fulton on completion of Erie Canal.

H.—1818—LAMBRECHTSEN.

Korte Beschrijving / van de / Ontdekking / En der Verdere /
/ Lotgevallen / van / Nieuw-Nederland, / / Weleer eene Volk-
planting van het / Gemeenebest der Vereenigde / Nederlanden
in America / door / Mr. N. C. Lambrechtsen / Van Ritthem, /
Ridder der orde van den Nederlandschen Leeuw, President Van
Het Zeeuwsch Genootschap der Wetenschappen. / Te Middle-
burg, bij / S. Van Benthem / Drukker van het Zeeuwsch Genoot-
schap / der Wetenschappen, MDCCCXVIII.

P. 8 et seq. Hudson's 1609 voyage described. F. p. 32. Kaart van Nieuw-Nederland by J. P. Bourjé, giving "Groote of Noord Rivier" to its source.

This work is translated in the collections of the New York Historical Society, Second Series, Vol. I, p. 85.

H.—1818—LAMBRECHTSEN

(Trans.) A / Short Description / of the / Discovery / and / Sub-
sequent History / of the / New Netherlands / A Colony in America
/ (at an early period) of the Republic of the United Nether-
lands, by N. C. Lambrechtsen / of Ritthem / Knight of the Eques-
trian Order of the Netherland Lion, President of the Zealand
Society of Sciences, Honorary Member of the New York Histori-
cal Society &c. / Middelburg / S. van Benthem, Printer of the
Zealand Society of Sciences / MDCCCXVIII / —Translated from
the original Dutch by the late Francis Adrian Van der Kemp,
Honorary Member of the N. Y. Historical Society. Collections
of the New York Historical Society, Second Series, Vol. I. —1841
—p. 75 et seq.

P. 84-88. Hudson and his voyage of 1609. Calls land of Cape Cod New Holland. Van der Donck asserts the natives said that the Half-Moon was the first ship to arrive and that before this they knew nothing of any other people.

P. 87. Hudson permitted to go to Holland, with the Half-Moon.
See Asher, Henry Hudson, p. xxxvi.

H.—1833—LARDNER

The / Cabinet Cyclopaedia / Conducted by the / Rev. Dionysius Lardner / History/The History of Maritime and Inland Discovery / London / Longman, Rees, Orme, Brown and Green. / 1833/

Vol. II, page 132. Hudson the first Englishman who made observations on the dip or inclination of the magnetic needle (see Barrow, p. 179).
P. 133. Observations with the dipping needle.

F.—1872—LAROUSSE

Grand / Dictionnaire / Universel / du XIX^e Siècle / etc. par M. Pierre Larousse, / Tome Huitième, / Paris, / 1872—4^o—pp. 1664—12 $\frac{3}{4}$ x 9 $\frac{1}{2}$.

P. 873. Article on Fulton describing his torpedo, submarine boat, etc. Napoleon named a commission to investigate, composed of Volney, Laplace, and Monge. Larousse awards honor for first steamboat to a Frenchman, le Marquis de Jouffroy—1783—operated on the Saône

Tome 2—(1867), p. 353 et seq. Article on "Bateau à Vapeur" gives history of steamboats, sketch of Fulton's experiments, description of his boat on the Seine, etc.

H.—1891—LEE

Dictionary / of / National Biography / edited by / Sidney Lee / Vol. XXVIII / London / Smith Elder & Co. 1891.

P. 147. Article on Henry Hudson.

F.—1834—LIEBER

The Stranger in America, by Francis Lieber—London—Richard Bentley—2 vols. in one—[1834].

P. 61. Estimate of Fulton. Suggests inscription for monument: "In honor of Robert Fulton of Pennsylvania. He subdued the rivers and the lakes and carried the plough to remote regions. He united the extreme parts of his country, and thus made firmer the sacred covenant of our Union."

P. 63. Note by the editor—"Let us never forget John Fitch when we speak of steamboats."

F.—1844—LIEBER (Editor)

Encyclopedia Americana—1844—Sketch of Fulton's inventions and career.

H.—1609—MACHAM

(Reprint) Nova Britannia / Offring Most / Excellent fruites by Planting in / Virginia /Exciting all such as be well affected / to further the same /London / Samuel Macham./ 1609—Reprint or J. Sabin—1867.

Ninth page (pages not numbered) "Two goodly rivers are discovered winding farre into the mayne, the one in the north part of the land by our western Colony, Knights and Gentlemen of Exeter, Plimmouth and others; the other in the South part thereof by our Colonie of London: etc."

The first river mentioned is the Hudson.

F.—1889—MAGAZINE OF AMERICAN HISTORY

September 1889.

P. 201. Wood engraved portrait of Robert Fulton from the painting by Benjamin West.

203. Falls in love with niece of Chancellor Livingston whom he later marries. Known at first as a miniature painter. Studied with Benjamin West who painted his portrait. Description of Fulton. His age 42 when his Clermont succeeded.

H.—1760—MAP

(Reprint) from "Soldier's Powder Horn" 1760 (?). In D. T. Valentine's Manual for 1860; lithograph copy. This map gives North River and Heud's River.

H.—1616—MAP

(Copy of) annexed to the memorial presented to the States General of the United Provinces on the 18th of August 1616 by Gerrit Jacobsz Witsen, cum sociis, Directors of New Netherland. Copied in fac-simile (in colors) from the original in the National Archives at The Hague, by permission of Dr. R. C. Bakhuizen van den Brink, Archivist of the Kingdom of the Netherlands—18 x 26.

This map gives Hudson river as "Riviere vandan vorst Mauritius."

See also frontispiece, O'Callaghan, History of New Netherland, for an uncolored copy of this map, the original of which was found by J. R. Brodhead on the 26th of June, 1841, in the Royal Archives at The Hague.

H.—1625. MAP

Purchas his Pilgrimes. Vol. III.

Pp. 852-53. Map of "The North Part of America" showing "Hudsons R."

H.—1536—MAP

Showing east coast of North America as far north as a sudden turn to the east where a large river is indicated, coming from due north, named "R. de S. Helene." From its position, course, and the topography at its mouth this would appear to be the same as Hudson River. See Winsor, Narrative and Critical History, Vol. II, p. 225.

H.—1755—MAP

A Map of British and French settlements in North America—1755 (?).

Gives Hudson River and part of Hudson's Bay.

H.—1623 (?)—MERIAN

Map of America / noviter delineata—by M. Merian. 11 x 14—(Original).

This map shows Hudson's Bay not named, but has memorandum just below bay, "Hic hivernavit Hudon A° 1611."

H.—1614, 1763—METEREN

Historie / van de / Oorlogen en Geschiedenissen / der Nederlanden, en derzelver Nabuuren: / Beginnende met den Jaare 1315, en / eindigende met den Jaare 1611: / Door / Emanuël van Meteren, / van Antwerpen / Voorzien met Afbeeldingen der voortref / lykste Perzonagiën van dien tyd, / Verbeterde Druk / Tiende Deel / Te Gorinchem, / By de Wed: van Nicolaas Goetzee, / Stads-Drukkeres MDCCLXIII.—8° x 5¹—10 vols.

P. 203 and 204. The voyage of "den Kloeken Engelschen Pieloot Henry Hutson, met eenen Vlieboot."

P. 205. "Eene schoone Rivier ontdekt."

P. 206. "Hutson werd niet toegelaten zyn schip t' huis te voeren en zyne Meesters verslag te doen."

See also Asher's Henry Hudson (Hakluyt Society), pp. xxiv. and 147.

H.—1628—MICHAELIUS

Reprint. See Versteeg.

H.—1878—MILLARD-MULLER

The Arctic North EAST AND WEST PASSAGE. DETECTIO FRETU HUDSONI / OR / HESSEL GERRITZ'S COLLECTION OF TRACTS/ By Himself, Massa, and De Quir / On the N. E. and W. Passage, Siberia and Australia. / Reproduced, with the Maps, in Photolithography/ in Dutch and Latin after the editions of 1612 and 1613 / Augmented with a New English translation / by Fred. John Millard / English Translator at Amsterdam / And an Essay on the origin and design of this Collection / by S. Muller Fz./ Keeper of the Records at Utrecht. / Amsterdam / Frederick Muller & Co. / 1878. 4°—8³ x 6⁴ pp. xxvii (Introduction) + 37 + 41 + 47 (the last only numbered) all but the introduction facsimile. Contains facsimile title pages of the first or 1612 edition and of the 1613 edition. Both are here reproduced.

Hessel Gerritsz, the author of the original work reproduced in this, was a printer and cartographer of the time of Hudson and knew him and the famous map makers Blaeu and Hondius. His little book is composed of seven parts enumerated on p. xiv of the reprint. It was translated into Latin and other languages, and Purchas gave an English version in his work of 1613, reprinted 1614-1617 and 1626. (See Purchas, 1617, this catalogue.) The reprint contains a reproduction of the map (reproduced also in Asher's Henry Hudson) which was prepared from Hudson's own chart, if it is not, as some believe, the map Hudson drew with his own hand, which was brought back by the mutineers. On the back of this map (first published by itself) is a description of Hudson's fourth voyage—a portion is herewith given in facsimile (see frontispiece). Muller says, p. viii., that Hudson boasted a good deal of all he knew about an open polar sea. See, for a full description of Gerritsz and his book, Asher's Henry Hudson, the Navigator, pp. 267-269; Hakluyt Society, Christey's Voyages of Foxe and James, Vol. I, p. viii;—and Murphy's Henry Hudson in Holland.

H.—1809—MILLER

A / Discourse / Designed to Commemorate the Discovery of / New York / by Henry Hudson / delivered / before the / New York Historical Society / September 4th 1809, / Being the Completion of the Second Century / since that event / by Samuel Miller D. D./ P. 18 et seq. of Collections of the New York Historical Society for the year 1809—Volume 1—New York, 1811.

H.—1717—MOLL et al

Atlas Geographus / Or, a Compleat / System of Geography / (Ancient and Modern) for / America / Containing / What is of most Use in Bleau, Varenus, Cellarius, Cluverius, Luyts, etc, etc, with the / Discoveries and Improvements of the best Spanish, Dutch, French, and English Authors, etc etc—The Maps done by Herman Moll, etc—. . . / In the Savoy / Printed by Eliz. Nutt, for John Nicholson, etc. MDCCXVII.

Vol. V, p. 732. The Dutch "built *New Amsterdam*, in the Isle of Manhattan, at the mouth of *Hudson's River*, which they called *The Great River* and the Bay E. of it they called *Nassau*."

H.—1732—MONSON

Sir William Monson's / Naval Tracts / In Six Books / Containing (here follows list of contents) / The Whole from the Original Manuscript.

This work forms a portion of Volume III of Churchill's, "A Collection of Voyages, etc," pp. 139-500, and has not been otherwise published. Monson was born in 1569, became a British Vice-Admiral, and died in 1643. His life covers the Hudson period completely, but as he wrote largely from memory after his retirement in 1635 his text is not as full nor as accurate as could be desired. On p. 387, he says: "And because I make this (Hudson's) voyage the foundation of all others that shall succeed, I will set down, as much as I can remember, what I received from the mouth of the master that came home from Hudson." The text is mainly a discussion of the possibility of a North-west Passage.

H.—1671—MONTANUS

(Reprint) *De Nieuwe en Onbekende Weerld of Beschryving van America en't Zuidland. door Arnold Montanus—Amsterdam 1671.* Translated in the Documentary History of the State of New York / by E. B. O'Callaghan, M. D., Albany, 1851. Vol. IV. Description of New Netherland.

P. 75. Discovered by Henry Hudson. Mention of the river "Manhattan" or "Great River"—the south entrance of it called Port May or Godyn's Bay. P. 80. Hudson relates that he entered the river "Montaines," etc.

H.—1906—MORRIS

Heroes of Discovery / In America / By / Charles Morris / Philadelphia / J. B. Lippincott Company—1906.

P. 190-195. Hudson and the discovery of the Hudson River.

H.—1878—MULLER

Essay on the Origin and Design of the Hessel Gerritsz collection of tracts, in *Detectio Freti Hudsoni*—Amsterdam, Frederick Muller & Co. 1878. See Millard-Muller—reprint of Hessel Gerritsz's book.

H.—1850—MUNSELL

The Annals of Albany / by / Joel Munsell / Albany / J. Munsell / 1850.

P. 9-14. On the third voyage of Hudson (after Juet)—from the N. Y. Hist. Soc. Trans., I, 138 et seq.

F.—1854—MUNSELL

The / Annals of Albany / by J. Munsell / Vol. V. and VI—Albany, J. Munsell. 1854.

Vol. VI, p. 2 et seq. Steam navigation on the Hudson. Origin and progress of steam as a motive power. 15. Fulton's experiment. 20. His description of first trip of the Clermont in a letter to Joel Barlow. 23. Reminiscences of the first voyage by Judge Wilson. 26. Another reminiscence. Dimensions of the Clermont. 28. Maker of engine and builder of hull. 34. Picture of the Clermont. 40. List of Hudson River boats. 44. Vincent Nolte's account of first voyage of the Clermont. 44. Name Clermont derived from Livingston's country seat.

H.—1849—MURPHY

(Reprint) The / Representation of New Netherland / Concerning Its / Location, Productiveness and Poor Condition / Translated from the Dutch for the New York Historical Society with / Explanatory Notes / by / Henry C. Murphy / Collections / of the / New York / Historical Society / Second Series / Volume II. New York / William Van Norden / 1849 / 4°—9⁵ x 6 pp. vi—493.

Introduction, p. 259, footnote, translation from a chapter of Van der Donck's "Vertoogh," on the first possessors of New Netherland, 1609. The Netherlanders explored "all along the coast and up the rivers, giving names to the different places, as far as the great North River, a great distance up which they sailed, and which some of the English will still call Hudson's River, but which was then named *Mauritius* River, after Prince Maurice, who at that time was Governor in Netherland."

P. 268. Description of the natives.

See Donck, and also O'Callaghan p. 271, Vol. I. Documents Relative to Colonial History of New York.

H.—1875—MURPHY

The / Voyage of Verrazzano / A Chapter in the / Early History of Maritime Discovery / in / America / by Henry C. Murphy / New York, 1875.

F. p. 129 is a facsimile of "Carta Universal," by Hizola Diego Ribero, año de 1529, on which the mouth of the Hudson seems to be indicated.

H.—1859—MURPHY

Henry Hudson / in / Holland / an inquiry into the origin and objects / of the voyage which led / to the / Discovery / of the / Hudson River / with / Bibliographical Notes / The Hague / The Brothers Giunta d' Albani 1859. 8°—9⁴ x 6³—pp. 72—Privately printed.

P. 34 et seq. A copy of the contract between Henry Hudson and the Dutch East India Company, dated 8th of January, 1609. His payment, 800 guilders, included the support of his "wife and children," but in case he did not return within a year a further payment of 200 guilders was to be made to his wife.

One of the signers of the contract "as interpreter and witness" was Jodocus Hondius, the now famous map-maker and father of Henry Hondius, equally distinguished in that line. Hudson's name in this document is written in the English way, "Henry" Hudson.

P. 41. Hudson, before leaving Holland, contemplates exploring the coast of America in latitude forty and in Davis's Straits.

P. 55. Appendix A. As to the name of Hudson's vessel and her character and rigging.

P. 59. Appendix B. An account of Hudson's voyage by the Dutch historian, Emmanuel Van Meteren—the first account that appeared in print written within two years after the discovery of the river. (See also Meteren, this Catalogue.)

P. 66. Appendix C. Discussion of the work of Hessel Gerritsz.

F.—1847—NEW YORK HISTORICAL SOCIETY

Proceedings of the, for the year 1847. Press of the Historical Society. New York—1847.

P. 25. Robert Fulton, name given among deceased members.

H.—1841—NEW YORK HISTORICAL SOCIETY

Collections of the / Second Series /. Vol. I. New York Printed for the Society—by H. Ludwig, 72 Vesey St. 1841—4°—pp. iv—486.—9³ x 5⁵.

Contains: Verazzano's Voyage, 1524, Indian Tradition of the First Arrival of the Dutch on Manhattan Island, Lambrechtsen's History of New Netherland, Van der Donck's Description of New Netherlands, Juet's Journal of Hudson's 1609 Voyage, etc. A valuable volume. Edited by George Folsom. Has frontispiece map of New Amsterdam (with view of), 1656—"Copied . . . from the Map of A. Van der Donck."

H.—1811—NEW YORK HISTORICAL SOCIETY

Collections of the, for the year 1809—Volume I—New York, 1811.

P. 18 et seq. A Discourse to Commemorate the Discovery of New York, delivered by Samuel Miller, D. D.—Sept. 4, 1809.

P. 27. Discovery of New York Bay and Hudson River;—p. 45, translation of Verrazzano's letter of July 8, 1524, to Francis I.

P. 61. Transcription of the Hudson voyages from Purchas, Vol. 3.

H.—1851—O'CALLAGHAN (Editor). See Brodhead

H.—1850—O'CALLAGHAN

The / Documentary History / of the / State of New York / arranged under the direction of the / Hon. Christopher Morgan / Secretary of State / By E. B. O'Callaghan, M. D. / Four Volumes / Albany / Weed, Parsons and Co. Public Printers / 1850—1851—11⁶ x 9².

Vol. I. Map of Nuova Belgia, 1658 (reprint) giving "R. Martins 6 R. Hudson" Æ Lucini Fece. / "Carta particolare della nuova Belgia / è parte della nuova Anglia / La longitudiné Cominca da l' Isola di Pico d' Asores."

Vol. III. Champlain's map (reprint) of New France, 1632.

H.—1855—O'CALLAGHAN

History of New Netherland / or / New York Under the Dutch / Second Edition / New York. / D. Appleton & Co. / MDCCCLV.

Vol. I, p. 32 et seq. Describes Hudson's voyage. Ft. n. "The Halve Maen" sent toward the North in 1608; reference in papers of East India Co.

Has map of New Netherland (copy), 1616. See "Map, annexed" etc.—this catalogue.

H.—1890—OLDBOY.

The Island of Manhattan—A Bit of Earth, by Felix Oldboy. New York. October 1890 (pamphlet).

Pp. 8 and 9. A brief but picturesque sketch of Hudson's career.

F.—OLD SOUTH LEAFLETS

No. 108—Vol. V—8 x 5². P. 161. Chancellor Livingston on the invention of the steamboat.

1. An historical account of the application of steam for the propelling of boats: a letter from Chancellor Livingston to the editors of the "American Medical and Philosophical Register," published in that journal in January, 1812 (Vol. II, p. 256).

2. Robert Fulton to Aaron Ogden (1814) on the invention of the steamboat.

3. Fulton's letters on the first voyage of the Clermont.

4. The first voyage of the Clermont. Reminiscences of H. Freeland, in a letter to J. F. Reigart, 1856.

5. Quotation from R. H. Thurston as to Fulton being the first inventor of the steamboat.

6. Résumé.

Vol. IV. No. 94. The discovery of the Hudson River.

1. Robert Juet's narrative—(Hudson's third voyage)—reprint.

2. Hudson's third voyage (1609), from Van Meteren's "Historie der Nederlanden," Hague, 1614. (See also Meteren, this catalogue.)

3. Extracts relating to Hudson's third voyage (1609) from John de Laet's, "Nieuwe Werelt," Amsterdam, 1625, 1630. (See also De Laet, this catalogue.)

4. Sketch of Hudson and excellent résumé of the literature and facts concerning him and his voyages.

Vol. VI. No. 17. Verrazzano's voyage—1524. Letter from Verrazzano to the King of France.

F.—1894—OSTRANDER

A History / of the / City of Brooklyn / and / King's County / by / Stephen M. Ostrander / Edited with introduction and notes by / Alexander Black / In two volumes / Brooklyn / Published by Subscription—1894.

Vol. II, p. 57. Mentions Fulton's steam ferry "the Clermont" being opened, 1812, between New York and Paulus Hook, Jersey City, and that in that year Fulton and Livingston planned ferry from Fly Market Slip to Brooklyn. The ferry was finally established at Beekman Slip.—Fulton Street created and named.

P. 58. Lease of ferry to R. Fulton and Wm. Cutting his brother-in-law; 59. First steam ferry established. 60. Horse ferry boats described. 61. Death of Fulton, 1815. 62. Picture of ferry boat William Cutting.

F.—1805—PARKINSON

A / Tour in America / in / 1798, 1799, and 1800 / Exhibiting / Sketches of Society and Manners / and / A Particular Account / of the / American System of Agriculture / with its Recent Improvements / By Richard Parkinson / Late of Orange Hill, near Baltimore / (Author of the Experienced Farmer etc / — (In two volumes) London / Printed for J. Harding, St. James's Street; and J. Murray, Fleet-Street—1805.

This is the book which Fulton criticised adversely—see Cadwallader Colden's life of Fulton (1817) p. 62–64.

H.—1625—PRICKET

A larger Discourse on the same (the 4th Hudson) voyage, and the success thereof written by Abacuk Pricket. See Purchas, Vol. III, p. 597, or the Glasgow reprint, also Christey (Northwest Fox) p. 120, and Asher, Henry Hudson, p. 98.

H.—1625—PURCHAS

Hakluytus / Posthumus / or / Purchas, His Pilgrimes / Contayning a History of the / World, in Sea Voyages & lande-/

Trave'lls by Englishmen & / others / etc etc / In fower / Parts. Each containing five / Bookes / By Samuel Purchas B. D. / . . . / Imprinted at London for Hen- / ry Fetherston at ye signe of the rose in Pauls Churchyard. 1624 / 4° 13 x 8²—
The above title is engraved in the centre of embellishments (see facsimile). A printed title follows bearing date of 1625 (see reduced copy).

Vol. III, p. 464. In the year 1608 *William Hudson* reaches 81 degrees and names Whale Bay, Hackluit Headland, and Hudsons Tutches.

P. 518. "A Treatise of Iver Boty a Gronlander, translated out of the Norsh language into High Dutch in the yeere 1560. And after out of High Dutch into Low Dutch by William Barentson of Amsterdam, who was chiefe Pilot aforesaid. The same Copie in High Dutch, is in the hands of Jodocus Hondius, which I have seen. And this was translated out of Low Dutch by Master William Stere Marchant, in the yeere 1608, for the use of me, Henrie Hudson. William Barentson's Booke is in the hands of Master Peter Plantius, who lent the same unto me."

See Purchas, Glasgow Reprint, Vol. XIII, p. 163. Rafn gives the name "Stere" as "Sybre." In the original the third letter is not plain. The document contains directions for navigating northern waters.

P. 567. Chap. XIII. "Divers Voyages and Northerne Discoveries of that worthy irrecoverable Discoverer, Master Henry Hudson. His Discoverie at the North Pole, set forth at the charge of Certaine Worshipfull Merchants of London, in May 1607. Written partly by John Playse one of the Company and partly by H. Hudson." (See Henry Hudson, the Navigator, Hakluyt Soc., for reprints.) Here Henry Hudson first appears, April 19, 1607, at the church of Saint Ethelburge in Bishops Gate Street. The first of May following he sailed from Gravesend.

P. 574 et seq. Chap. XV. "A Second Voyage or Employment of Master Henry Hudson, for finding a passage to the East Indies by the North-east; written by himself." Hudson sailed this time the 22d of April—Friday,—1608, and went down to Blackewall.

P. 579. Hudson mentions variation of the compass, speaking of Nova Zembla. "It is layd in plot by the Hollanders out of his true place too farre North: to what end I know not, unlesse to make it hold course with the compasse, not respecting the variation." (See Cooley, this catalogue.—Hudson first Englishman to make observations on dip or inclination of magnetic needle.)

P. 581 et seq. Chap. XVI. "The Third Voyage of Master Henrie Hudson toward Nova Zembla and at his returne, his passing from Farre Islands, to New Found Land, and along to fortie foure degrees and ten minutes, and thence to Cape Cod, and so to thirtie three degrees; and along the Coast to the Northward, to fortie two degrees and a half, and up the River neere to fortie three degrees. Written by Robert Juet of Lime-house."

This Robert Juet was the original and chief mutineer on the 1610 voyage.

Hudson sailed on this voyage March 25, 1609, from Amsterdam, in the employ of the Dutch East India Company. He tried to make a northern passage and, failing in that, sailed to and along the coast of

America, arriving off New York Bay in September. He sailed up the Hudson and finally left for England on Oct. 4th, arriving at Dartmouth Nov. 7th.

P. 596 et seq. Chap. XVII. "An abstract of the Journall of Master Henry Hudson for the discoverie of the Northwest Passage, begunne the seventeenth of Aprill 1610, ended with his end, being treacherously exposed by some of the Companie." Hudson sailed in the employ of an English Co. on this fourth known and last voyage April 17, 1610.

P. 597. "A larger Discourse of the same Voyage and the success thereof, written by Abacuk Prickett."

Prickett was a servant of Sir Dudley Digges, one of the financial backers of this expedition. He was spared by the mutineers with the idea of using him to intercede for their pardon (p. 818, Vol. V).

P. 609. "A letter of Samuel Macham, and a note found in the Deske of Thomas Wydowse, Student in the Mathematickes, hee being one of them who was put into the Shallop."—This note of Wydowse stamps Robert Juet as one of the chief mutineers.

P. 730. Sir Thomas Smith, having read Hudson's own journal, tried to find the land Hudson called Hold-with-hope, but it did not exist so far as he could discover.

Pp. 852-853. Map of North America giving "Hudsons R."

P. 852. A Treatise of the North-west passage to the South Sea through the continent of Virginia and by Fretum Hudson.

Mentions the sea where Hudson wintered as being called *Fretum Hudson* and stretching as far westward as the Cape of Florida and southward to 49 degrees.

See also p. ix, Vol. I. The Voyages of Captain Luke Foxe etc. by Miller Christey—Hakluyt Society—footnote on Purchas.

The above work is in four volumes and with it generally goes a similarly printed and bound volume of the "*Pilgrimage*," fourth edition, 1626, and styled Volume V, but it is a separate work.

H.—1617—PURCHAS

Purchas his Pilgrimage / or / Relations / Of the World / etc. . . . / The Third Edition—etc. . . . / By Samuel Purchas, Parson of St. Martins by / Ludgate London /. / London / Printed by William Stansby for Henry Fetherstone, and are to be sold at his shop in / Pauls Churchyard at the sign of the Rose / 1617 / 11¼ x 7—pp. 1102.

P. 924-926. Of Hudson's discoveries and death.

This account of Hudson is founded on the 1612 edition of Hessel Gerritsz's work; see p. 139, Henry Hudson the Navigator by G. M. Asher; also p. ix, Christey, The Voyages of Captain Luke Foxe, etc.

The above was the first work published by Purchas, 1st ed.—1613; 2d ed.—1614; 3d ed.—1617; and 4th ed. (forming Vol. V of the usual set of Purchas's works)—1626.

H.—1626—PURCHAS.

Purchas his Pilgrimage / or / Relations / of the World / etc. . . .

PURCHAS

HIS PILGRIMES.

IN FIVE BOOKES.

The first, Contayning the Voyages and Peregrinations made
by ancient Kings, Patriarkes, Apostles, Philosophers, and
others, to and thorow the remoter parts of the knowne World:

*Enquiries also of Languages and Religions, especially of the
moderne diuersified Professions of
CHRISTIANITIE.*

The second, *A Description of all the Circum-Navigations
of the GLOBE.*

The third, Navigations and Voyages of *English-men*, alongst the Coasts
of Africa, to the Cape of Good Hope, and from thence to the Red Sea,
the Abassin, Arabian, Persian, Indian, Shoares,
Continents, and Ilands.

The fourth, *English Voyages beyond the East Indies, to the Ilands of Japan,
China, Canchinchina, the Philippina with others, and the Indian Navigations
further prosecuted: Their iust Commerce, nobly vindicated against Turkish
Treacherie, victoriously defended against Portugall Hostilitie;
gloriously aduanced against Moorish and Echnike Perfidiu;
hopefully recouering from Dutch Malignitie; iustly maintayned
against ignorant and malicious Calomnie.*

The fifth, Navigations, Voyages, Traffiques, Discoueries, of the *English Nation
in the Easterne parts of the World: continuing the English-Indian occurrences,
and contrayning the English Affaires with the Great Samorins, in the Persian
and Arabian Gulfs, and in other places of the Continent, and Ilands of and
beyond the Indies: the Portugall Attempts, and Dutch Disasters,
diuers Sea-fights with both; and many other remarkable
RELATIONS.*

The First Part.

Unus Deus, Una Veritas.

LONDON

Printed by William Stansby for Henrie Fetherstone, and are to be sold at his shop in
Pauls Church-yard at the signe of the Rose.

1625.

Reduced by photography from the title-page of the 1625 edition. The dimensions of the original between outer lines are 10¾ x 6¾ inches. There are four volumes or "parts" to this work each consisting of five "bookes." Another volume similarly printed, in 1626, and bound as Vol. V, is a separate work. See Purchas, 1617 edition.

The fourth Edition, much enlarged, and illustrated with Mappes, through the whole Worke—etc—London, etc—1626.

This title page worded much the same as that of the third edition dated 1617. Purchas died the year this was published. This work is usually classed as "Volume V" but it is separate in its character from the others, being a fourth edition of the work first published in 1613.

P. 817. Eighth Booke, Chap. III, part VI.

Of Hudson's discoveries and death. This is a two-page résumé of Hudson's career. See Vol. III for the full accounts—the source of almost all that is known about Hudson.

H.—1625—PURCHAS

Map, Vol. III. pp. 852-53—Map of the North Part of America, gives "Hudson's R."

H.—1625-1906—PURCHAS

("Glasgow" Reprint) Hakluytus Posthumus / or / Purchas His Pilgrimes / Contayning a History of the World / in Sea Voyages and Lande Travells / by / Englishmen and Others / by Samuel Purchas, B. D. / Glasgow / James MacLehose and Sons—MCMVI. 8°—9 x 5⁶—20 volumes.

Vol. XIII p. 294 et seq. The voyages of Henry Hudson.

H.—1837—RAFN

Antiquitates Americanæ / sive / Scriptores Septentrionales / Rerum Ante-Columbianarum / in / America / etc. Hafniæ—1837—(C. C. Rafn) Fol. 14 x 10⁶—pp. 479.

P. 300. "Descriptio Groenlandiæ auctore Ivare Bardi, filio." This document was translated into English for the use of Hudson in his northern voyages. See Purchas, Vol. III, p. 518.—Glasgow reprint, Vol. XIII, p. 294. Also Boty this catalogue.

H.—1866—READ

A / Historical Inquiry / Concerning / Henry Hudson / his Friends, Relatives and Early Life / his / Connection with the Muscovy Company / and / Discovery of Delaware Bay / by / John Meredith Read Jr. / Albany. / Joel Munsell / MDCCCLXVI.

Frontispiece, "Arms of Henry Hudson, Founder & 1st Assistant of the Muscovy Company. Obiit 1555." Nothing known of Hudson prior to April 19, 1607. Purchas, His Pilgrimes and Pilgrimage the fountain head of knowledge on Hudson.

P. 18. Another Henry Hudson, 1555,—ancestor (?) of the discoverer.

P. 19. Thomas Hudson—ancestor (?)

P. 19. Christopher Hudson—ancestor (?)

P. 69. Origin of name Hudson.

P. 120. Henry Hudson trained in the Muscovy Company's employ.

P. 126. Acquaintance with John Smith.

P. 126. Van Meteren, knew Hudson well.

P. 172, Appendix I. Henry Hudson's descendants.

F.—1856—REIGART

The Life / of / Robert Fulton / One of the most Distinguished inventors etc. etc., Accompanied with / Copies of Mr. Fulton's Original Drawings / and / Numerous Plates / Exhibiting the leading incidents etc., etc., / by / J. Franklin Reigart / . . . Philadelphia / C. G. Henderson & Co. / Arch and Fifth Streets / 1856—9⁴ x 5⁶—pp. xxvii + 297.

This volume is a wholesale plagiarism of the Life of Fulton by Colden. Page after page is reprinted without mention of Colden. In several instances, as, for example, on p. 199, a paragraph (from p. 255—1817 ed.) is set in closer type with quotation marks with a reference to Colden's "address," as if all the remainder were original with Reigart.

There is other material in the book—a picture of the Fulton Farm, the Fulton Homestead, several designs in color by Fulton illustrating Joel Barlow's Columbiad, of which extracts are given. The colors are atrocious and could hardly represent Fulton's skill in that direction. There are also illustrations of Fulton's inventions in various lines, including a poor picture of the Clermont. Letters from Fulton to Gov. Mifflin, 1796, to Albert Gallatin, 1807, and to others are given.

H.—1861—RICHARDSON

The Polar Regions / by Sir John Richardson. LL. D. F. R. S. Lond. etc. Edinburgh / Adam and Charles Black / 1861.—8°—pp. ix + 400—North and South Polar Charts, 9 x 5⁴.

Pp. 95—102. Résumé of Hudson's voyages.

H.—1888—ROBERTS

American Commonwealths. New York / The Planting and the Growth of / The Empire State / by / Ellis H. Roberts / In two volumes / Vol. I. / Boston and New York, Houghton, Mifflin & Co. 1888.

P. 528. Experiments of John Stevens in steam navigation, 1791.

P. 529. Origin and development of steam navigation on the Hudson.

H.—1755—ROGERS

A Concise / Account / of / North America / containing a Description of the several British Colonies on that Continent, including the Islands of Newfoundland, Cape Breton, etc / By Major Robert Rogers / London / J. Millan—1755.

P. 60. "The Dutch found their claim on a pretense of having purchased it of one Captain Hudson, who had formerly traded on these coasts, and gave name to the river called Hudson's River, etc."

H. F.—1891—ROOSEVELT

Historic Towns / New York / by / Theodore Roosevelt / —London. Longmans, Green & Co.—1891.

P. 1. Hendrik Hudson and the Half Moon. 171—72. Robert Fulton begins era of steam navigation—his competitors—plan of a steam frigate.

F.—1788—RUMSEY

(Reprint) A / Short / Treatise / on the Application of / Steam / whereby is clearly shewn / from / actual experiments / that / Steam / may be applied to propel / boats or vessels / of any burthen against rapid currents with great velocity / etc. etc. / by James Rumsey / of Berkeley County, Virginia / Philadelphia / Printed by Joseph James, Chestnut Street. / MDCCLXXXVIII—In the Documentary History of New York, Vol. II, 1850.

Contains a discussion of Fitch's claims as against his own as the inventor of steam propulsion for boats. Also in same volume, a certificate (1846) by Hutchins showing that Fitch tried his boat 6 years before Fulton, on the Collect Pond in New York. Map of Collect Pond. Shows that Fulton and Livingston saw this boat and had its operation explained to them and rode in it. Other authorities say Fulton was abroad at that time.

H.—1849—RUNDALL

(Reprint) Narratives of Voyages / Towards / The North-west / In Search of / A Passage to Cathay and India / 1496 to 1631— / with / Selections from the Early Records of the Honourable / The East India Company and from MSS. / In the British Museum / by / Thomas Rundall, Esq. / London / Printed for the Hakluyt Society / MDCCCXLIX. 8°—9 x 5⁴—pp. xix + 259.

P. 76-81. Voyage of Master Henry Hudson. A description of the 1610 voyage.

H. 1747-1865—SABIN

(Reprint) The / History / of the / First Discovery and Settlement / of / Virginia / by / William Stith, A.M. / New York / Reprinted for Joseph Sabin / 1865.

No. 16 of 50 copies on large paper. See Stith.

H.—1759—SALMON

The Universal Traveller / or a / Compleat description / of the several / Nations of the World / by Mr. Salmon / London 1759.—2 vols.—15 x 9⁴.

P. 721. Hudson's four voyages mentioned. 723. Hudson River.

H.—1862—SHEA

(Reprint) Novum Belgium (1644) Description de Nieuw Netherland etc. par le R. P. Isaac Jogues—(q. v.)

H.—1900—SHONNARD AND SPOONER

History of Westchester County, New York. From its Earliest Settlement to the Year 1900, by Frederic Shonnard and W. W. Spooner. The New York History Company—New York, 1900.

P. 53-59. Refers to Hudson and his discoveries. Discusses points of

anchorage, landing, etc. Fate of the Half Moon. Reason why Dutch East India Co. could not develop Hudson River region.

P. 70. Why Hudson River was called North River.

H.—1814—SMITH

History / of / New York / From the first Discovery to the year MDCCXXXII To which is annexed a description of the country etc., . . . By William Smith A. M. / With a Continuation / From the year 1732 to the Commencement of the year 1814. / Albany / Printed by Ryer Schermerhorn / Sold by himself and G. Forbes, Albany; H. Stockwell, Troy; A. Seward, Utica, and Andrus & Starr, Hartford. / 1814—9 x 5³ pp. xv + 511.

P. 18. Mentions Hudson's discovery of the river as 1608 and in a note says Stith, Douglas, Oldmixon, and other English writers agree that Hudson's "first voyage" was in 1608.

H.—1882—SMITH

History of Dutchess County, New York . . . by James H. Smith, assisted by Hume H. Cale and William E. Roscoe. D. Mason & Co., Syracuse—1882.

P. 40. Account of Hudson and his voyages.

H.—1760—SOLDIER'S POWDER HORN

Map from, reprinted in Valentine's Manual for 1860—gives "North River" and "Heud's River."

H. F.—1845—SPARKS

Lives of Robert Fulton, Joseph Warren, Henry Hudson, and Father Marquette. New York. Harper & Brothers—1845 (Library of American Biography, conducted by Jared Sparks, Vol. X.)

Life of Fulton by James Renwick.

Life of Hudson by Henry R. Cleveland.

H.—1676 (?)—SPEED

The Theatre of the Empire of Great Britaine etc. . . . by John Speed —London / Printed for Thomas Bassett and Richard Chiswell—1676. (Containing) A Map of / New England / and / New York / etc., Atlas, 17⁵ x 12.

This map has "Hudsons R." on it. A copy of Visscher.

H. F.—1848—STEINITZ

The Ship / Its Origin and Progress / by Francis Steinitz. 11⁴ x 8⁵.

P. 222. Résumé of Hudson's voyages. "Whatever transfer was made by Hudson of these lands, it was not a valid one, as it was conveying away a part of the king's dominions to a foreign nation, without the participation of the crown and kingdom."

The appendix contains a dictionary of vessels. *Flibot*—a small Dutch vessel which carries about 100 tons and has a main and fore but no top-mast.

Flyboat, or Flight, a large flat-bottomed Dutch vessel, generally of 400 tons. It is distinguished by a very broad buttock below, and a remarkably high stern, somewhat resembling a Gothic turret.

P. 406. Fulton's steamboat, etc.

H.—1525—STEVENSON

Maps (reprint) Illustrating Early Discovery and Exploration / in / America / 1502-1530 / Reproduced by photography from the Original Manuscripts / Issued under the Direction of / Edward Luther Stevenson, Ph. D. / Professor of History in Rutgers College / New Brunswick, N. J. / 1903.

Sheet No. 8. Wolfenbüttel—Spanish, 1525-30, gives, "R. de s.: antonio," which was the Spanish name for Hudson River. See Kohl.

See *Hondius*, for early mention of Hudson on a map.

F.—1870—STILES

A / History / of the / City of Brooklyn / including / the Old Town and Village of Brooklyn / etc. etc., / by / Henry R. Stiles. / Brooklyn N. Y. / Published by Subscription / 1870 / 3 vols. 9⁵ x 6⁴.

P. 505. Brooklyn ferries, 1642-1869; note with 27 references to ferry literature. 535. Success of the Clermont. 536. Fulton's ferries. 539. Fulton and Cutting form stock company; first steam ferry; etc., etc.

H.—1747—STITH

(Reprint) / The / History / of the / First Discovery and Settlement / of / Virginia Being / An Essay Towards a General History of this Colony / By William Stith, A. M. / Rector of Henrico Parish and one of the Governors of William and Mary College / . . . / Williamsburg / Printed by William Parks. MDCCXLVII / Reprint by Joseph Sabin, New York—1865, with new title page similar to the above which follows it. Pp. viii + 331—10⁷ x 7.

F.—1868—STONE

History / of / New York City / from the / Discovery to the Present Day / by / Wm. L. Stone / E. Cleave, New York, MDCCCLXVIII.

P. 189. Reference to Fulton's successful starting of his first steamboat.

F.—1819—THOMAS

The Analectic Magazine. Vol. V. Philadelphia, Moses Thomas—1819.

P. 394. On the controversy on Fulton's claim to the invention of the steamboat.

F.—1891.—THURSTON

Robert Fulton / His Life and its Results / by / Robert H. Thurston / New York / Dodd, Mead and Company / 1891—7¹ x 4⁴—pp. 194.

Frontispiece—portrait of Fulton (after West).

P. 1. As to the inventors of steam-engines and steamboats. 2. What Fulton did. 28. Early experiments in steam-navigation. 34. First steamboat in U. S. built by William Henry. Rumsey's experiments. 39. Picture of Fitch's steamboat of 1788. 42. Steamboat of Miller, Taylor, and Symmington. 43. Steamboat of the Marquis of Jouffroy. 48. Fulton's early life. 60. As an engineer. 64. To carry boats overland. 71. Invention of the torpedo. 79. Experiments with torpedo. 89. Specification. 105. On steam propulsion. 107. Plan of first steamboat. 116. Engine, boiler, and screw-propeller used by Stevens, 1804. 117. Stevens screw steamer, cut of. 120. Stevens twin-screw steamer. 124. Fulton secures monopoly of waters of New York. 126. Fulton's first boat in America—the Clermont. 127. Fulton letter describing the first trip. 128. Extract from letter to Barlow. 130. Cut of the Clermont. 131. Drawing of the engine of the Clermont. 133. Fares and time to river points from New York. 135. Table of steamboats built in New York under Fulton's direction or according to his plans. 146. British steamboats. 147. First boat down the Mississippi. 167. First transatlantic voyage—with description of the Savannah.

F.—1890.—TODD

The Story of the City of New York / by / Charles Burr Todd. New York and London. G. P. Putnam's Sons—1890.

P. 402. Portrait (poor) of Fulton and sketch of first steamboat on the Hudson. Sketch of Fulton. Picture of the Clermont. 404. Earliest boat propelled by steam, 1543. 404-05. Description of Clermont and the first trip.

F.—1834.—TUDOR

Narrative of a Tour in North America, etc. Henry Tudor.—2 vols. London 1834.

P. 35. "I saw here (the Navy Yard, N. Y.) the shattered hulk of the steam frigate Fulton, the only man-of-war to which steam was ever applied."

H.—1901.—ULMANN

A Landmark History / of New York / Also the origin of street names / and a bibliography / by / Albert Ulmann / New York / D. Appleton & Co. 1901.

P. 3. Reference to Henry Hudson. P 21. Reference to Henry Hudson.

F.—1853.—VALENTINE

History / of / the City / of / New York / G. P. Putnam & Co. / 10 Park Place / 1853.

P. 11. Kalch-hook (or Shell Point) so called from the quantity of

decomposed shells found there. Name afterwards applied to the fresh water pond itself, abbreviated to "Kalch" then "Collect." P. 283. Spoken of as "Kalck-hock" and "Colck." P. 304. Map showing pond in 1755.

This pond is of interest because it was there that Fitch tried some of his experiments in steam propulsion.

P. 18. First discovery of New York Bay, etc., ascribed to Hudson. Sketch of Hudson's entrance to Hudson River.

F.—1859—VALENTINE

Manual of the Corporation of the City of New York, for 1859 by D. T. Valentine.

P. 603. Development of the steam ferry boats. 604. Stevens wins over Fulton in competition for first steam ferry—Oct. 11th 1811. 604. Letter from Prof. Renwick according priority of operation of steam-boat to Stevens. Stevens boat a small affair but successful. 605-609. Account of the Powles Hook Steam Ferry. Letter from Fulton to Dr. Hosack describing the boat with plans. 610. List of ferry boats.

H.—1656—VAN DER DONCK

(Reprint) See Donck.

F.—1898—VAN PELT

Leslie's History / of the / Greater New York / by / Daniel Van Pelt / (Three Volumes) 10⁶ x 7.

Vol. I, p. 259. Portrait of Fulton. Fitch's experiment on Collect Pond (see Valentine, 1853, p. 11, for original name of this pond). Chancellor Livingston and John Stevens present. Fulton's place in steam navigation. Description of the first Fulton boat. Picture of the Clermont and its machinery, f. p. 260. The first trip, 262. Name of "Clermont" changed to "North River"; steam ferry-boats, 263.

Vol. III. Biography of Fulton, 554.

H.—1663—VAUGHAN

Sheet map of North and South America, "Americæ novo descriptio Impensis, Añæ Seile 1663."

Robert Vaughan, engraver (original). This map has "Hudsons bay" placed against the mouth of Hudson River. (See also Heylyn.)

H.—1904—VERSTEEG

Manhattan / in 1628 / as described in the recently discovered / Autograph Letter of Jonas Michaelius, / written from the settlement on the 8th of August of that year and / now first published / With a Review of the letter and an / Historical Sketch of / New Netherland to 1628 / by Dingman Versteeg / New York / Dodd, Mead & Co. / 1904 /

P. 102. Hudson signs contract Jan. 6. 1609. 103. Facsimile of page of Juet's journal, from Purchas. 102 to 125. A good résumé of the Hudson 1609 voyage.

H.—1650-56—VISSCHER

Map. *Novi Belgii / Novæque Angliæ nec non / Partis / Virginie Tabula / multis in locis emendata a / Nicolao Joannis Visschero.* (Original) 18 x 22.

Asher says he knew of but one copy of this map.

It gives "Groote Rivier at"

{	Manhattans R. Noort Rivier, Montaigne Ri. Maurits Rivier."
---	---

Has a view of Nieuw Amsterdam, lower right hand corner.

A second original print colored by hand also in A. G. S. map room.

F.—1895—WALKER

The Making of a Nation—1783-1817 by / Francis A. Walker
Ph. D., LL. D. New York, Charles Scribner's Sons—1895.

P. 206. Fulton solves the problem—monopoly granted—declared 1824 by the Supreme Court to be in collision with acts of Congress and therefore void.

H.—1846—WATSON

Annals and Occurrences / of / New York City and State / In the Olden Time / By John F. Watson / Philadelphia / Henry F. Anners. 1846.

P. 9 et seq. Landing place of Hudson discussed—story of the Indians from Heckewelder.

F.—1890—WHITTEMORE

Advance Sheets / of / Origin and Progress / of / Steam Navigation / In America / Containing an Historical Sketch of the Ship Building operations / of Isaac and / William H. Webb / during a period of over half a Century / together with a description of / Webb's Academy and Home for Shipbuilders / Compiled by Henry Whittemore. The Original and Progressive Publishing Co., 1890. Pp. xvi + 18—11⁵ x 9³.

Proves John Fitch the inventor of steamboats. Description of Fitch's boat.

James Rumsey's experiments in steam navigation, 1784-1787—Resolution passed by House of Representatives, Feb. 9, 1839, awarding gold medal to Rumsey's son in recognition of his father's services—Inventions and improvements in steam navigation of John Stevens, and Robert L. Stevens—Experiment of Oliver Evans—of Nicholas Roosevelt—of Robert Fulton. First Mississippi steamboat—First ocean steamer.

H. F.—1902—WILSON

New York, Old and New / Its Story, Streets and Landmarks / by Rufus Rockwell Wilson. Philadelphia, J. B. Lippincott Co. 1902.

Vol. I, p. 16. Brief mention of Hudson's 1609 voyage.

P. 292. Sketch of Fulton and his first steamboat.

H.—1902—WILSON

Historic Long Island / by / Rufus Rockwell Wilson , / New York The Berkeley Press, / 1902.

P. 13. States that the first Americans to greet Hudson were the Canarsies.

F.—1893—WILSON

The / Memorial History of the / City of New York / From its first settlement to the year 1892. Edited by James Grant Wilson / New York History Co. 1893.

This work is filled with information about Fulton.

Vol. III, p. 96. Fulton's residence No. 3 Broadway.

P. 184. Papin's advocacy of steam power for boats in 1690. Papin's boat tried in 1707. Other attempts. Fulton's history.

P. 186. Read's, Ormsbee's, and Morey's steamboats. Morey's claim. Stevens's boat. P. 189. Livingston's attempt. P. 191. Trial of the Clermont. P. 197. Map of New York showing Collect Pond. P. 280. Fulton's steam war vessel—etc., etc.

Vol. IV. also contains information on Fulton.

H.—1884—WINSOR

Narrative and Critical / History of America / edited / by Justin Winsor / (8 vols.) Boston. Houghton, Mifflin & Co. 4°—10⁶ x 7.

Vol. III, p. 178. Henry Hudson visits coast of Maine, etc. Brief mention.

Vol. IV, p. 397. Brief discussion of Hudson's voyages—Captain Smith suggested to Hudson the search for a northwest passage at about the 40th degree. Champlain on lake to the north at same time Hudson was navigating the river.

H.—1525—WOLFENBÜTTEL—SPANISH

Map (Reprint)—see Stevenson.

H.—1597—WYTFLIET

Descriptionis / Ptolemaicæ / Augrumentum / sine / Occidentis Notitia / Breui commentario / Illustrata / Studio et opera / Cornely Wytfliet / Louaniensis / Lovanii / Typis Johannis Borgardi / Anno Domini MDXCVII /

Map f. p. 182 shows "R. de gamas" (afterwards Hudson River).



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Robert Fulton

From the Original Painting by Thomas Sully

OFFICIAL
ROBERT FULTON EXHIBITION
OF THE
HUDSON-FULTON COMMISSION

THE
NEW YORK HISTORICAL SOCIETY
IN COÖPERATION WITH
THE COLONIAL DAMES OF AMERICA

27 SEPTEMBER—30 OCTOBER
1909

170 CENTRAL PARK WEST
BETWEEN 76TH AND 77TH STREETS
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BRONZE BUST OF ROBERT FULTON
FROM THE PLASTER CAST BY
JEAN ANTOINE HOUDON
OWNED BY THE NATIONAL ACADEMY OF DESIGN
PRESENTED TO
THE NEW YORK HISTORICAL SOCIETY
BY
THE COLONIAL DAMES OF AMERICA

CATALOGUE

- 1 Black and White Medallion Portrait of Robert Fulton, by John Vanderlyn.
(Size $6\frac{1}{2} \times 8\frac{1}{2}$ inches.)

Loaned by Hon. Peter T. Barlow, New York City.

- 1A Photogravure reproduction (by Annan and Wood) of the medallion portrait of Fulton by Sharpless, showing the inventor with powdered hair and furred top-coat. Signed Artist's Proof.
Loaned by Henry C. Swords.

- 2 Autograph letter of Dec. 9, 1813, from Robert Fulton to his Excellency, William Hawkins, expressing hope for a repeal of the law in favor of Mr. Stevens of Hoboken, and promising to place in the Governor's hands a speedy report on the condition of the inland waters of the State.
Loaned by Walter Scott.

- 3 Portrait of Fulton, painted by Jarvis, for Mr. John Wilkes, and presented to Rev. Francis Vinton, of Trinity Church, New York, by Mr. Wilkes' daughter, Mrs. David Colden. The inventor is seated at a balcony overlooking the sea. Dark crimson drapery marks the background. Face and figure are turned to the left; the hands are clasped in front.
(Size $27\frac{3}{4} \times 36$ inches.)

John Wesley Jarvis, the artist, was a nephew of John Wesley the Methodist divine, and was brought by his father to this country, at five years of age. Through the earnestness of his own

studies he became one of the leading American portrait painters of his time.

Loaned by the Misses Vinton of Pomfret, Conn.

4 Benjamin West's Portrait of Robert Fulton.

Fulton sits in characteristic attitude on his balcony overlooking the sea where one of his submarine inventions for naval warfare is on test. The rich background throws the head and features into strong relief. Force of genius and firmness of character individualize this work by the great American painter.

(Size 28 x 36 inches.)

Loaned by Robert Fulton Cutting.

5 Portrait of Robert Fulton—painted while he was in Holland.

Loaned by Mrs. Hermann H. Cammann.

6 Portrait of Robert Fulton. Painted in 1826 by Robert Le Fevre.

This eminent French artist met Fulton during his residence in Paris, and was so impressed with his personality and genius, that he easily reproduced the marked lineaments from former sketches.

(Oval—7¼ x 8½ inches.)

Loaned by J. Wyman Drummond.

7 Portrait of Robert Fulton by Thomas Sully.

The natural animation of Fulton's countenance is mellowed by time; the clustering hair is thinned; the figure turns to the left and the face looks straight to the front.

Like West, Sully came from across the seas. He was born in Lincolnshire, England. His parents brought him to South Carolina when he was nine years of age. Love of Art mastered him while watching the work of his brother Lawrence and studying the delicate creations of Angelica Kaufman.

(Size 20 x 24 inches.)

Loaned by The Fulton Club.

8 Portrait-sketch of Robert Fulton, painted by himself.

Loaned by Mrs. Robert Fulton Blight.

- 9 Portrait of Robert Fulton. Artist unknown.

This is a younger Fulton than the Fulton of West and Jarvis. The background is softly neutral. The figure turns to the left. The severe black costume is relieved by high white collar and stock with folds and ruffles.

(Size 24 x 29 inches.)

Loaned by W. Bayard Cutting.

- 10 Fulton and Napoleon in a chamber of the Tuileries (1804). The Inventor is detailing his Steamboat plan to the Emperor, who listens with interest. Lithographed by P. S. Duval, Philadelphia.
Loaned by Mrs. Hermann H. Cammann.

- 11 Portrait of Joseph Bringhurst (age 19).

Painted by Robert Fulton in 1786. The Portrait shows young Bringhurst with dark, earnest eyes and flowing brown locks, plainly dressed in Quaker drab, sketching at the river side.

Loaned by E. Bringhurst, Jr., Wilmington, Del.

- 12 Portrait of the Earl of Stanhope. Painted by Robert Fulton. The Statesman sits at a crimson-draped open window overlooking the entrance to the English Channel. In his hand he holds a plan which deeply engrosses him. The view-point selected is singularly suggestive.

(Size 26 x 36 inches.)

Loaned by Mr. and Mrs. Herman Livingston.

- 13 Portrait of a Gentleman. Attributed to Robert Fulton.

(Size 10½ x 12½ inches.)

Loaned by E. Bringhurst, Jr., Wilmington, Del.

- 14 Reproduction of Robert Fulton's Painting "The Last Interview of Louis XVI—King of France—and Family"—engraved by Sherwin in 1793, and published by "R. Wilkinson No. 58 Cornhill" in the same year. This print is exceedingly rare; of it, in the 1834 issue of his "History of the Arts of Design" William Dunlap, Vice-President of the National Academy of Design,

wrote: "the only copy I have seen is possessed by my friend, Dr. Francis; it is now a curiosity." Under the title of the engraving Fulton dedicated the Plate, as follows: "To the Right Hon^{ble} Lady Elizabeth Palk this plate is inscribed by her Ladyship's most obedient and humble servant."

Loaned by Mrs. Horace F. Brown, Claverack, N. Y.

- 15 Group of Illustrations from Joel Barlow's epic Poem "The Columbiad," ordered by Robert Fulton, from originals by Robert Smirke, R. A.

Loaned by Mrs. Horace F. Brown.

- 16 Relievo Medallion of Robert Fulton.

Modelled for Machinery Hall, Pan-American Exposition, Buffalo.

Loaned by The Merrick Library through its President, E. C. Cammann.

- 17 Portrait (on wood) of Robert Fulton, 2nd, father of the Inventor. Painted by Benjamin West in 1753, when the artist was a mere boy. (Signature and date in lower left hand corner.)

(Size 14 x 16½ inches.)

Loaned by Mrs. Arthur T. Sutcliffe.

- 18 Portrait of Robert Fulton's mother, Mary Smith Fulton, by Benjamin West in 1753.

(Size 14 x 16½ inches.)

Loaned by Mrs. Arthur T. Sutcliffe.

- 19 Crayon Portrait of an old mill—drawn by Julia Fulton (afterwards Mrs. Charles Blight) Robert Fulton's daughter.

(Size 13 x 10½ inches.)

Loaned by Rev. Dr. Robert Fulton Crary, Matteawan, New York.

- 20 Colored Lithograph: "A View of the Birth Place of Robert Fulton." Drawn by J. H. Sherwin. Colored by J. N. Rosenthal. Published in Philadelphia by J. Franklin Reigart and Company, 1852.

(Size 21 x 14 inches.)

Loaned by Mrs. Robert Fulton Blight.

- 21 Photograph of Paul Sabbaton, the machinist and engineer whose services were devoted to Robert Fulton in his later work.

Loaned by Mrs. Robert Fulton Blight.

- 22 "Birth Place of Robert Fulton" in Little Britain, Lancaster Co., Pennsylvania, as it appeared in 1765, the year of the inventor's birth. Painted by Robert Fulton Ludlow in 1889. Exhibited at the International Maritime Exposition in Bordeaux, France, 1907.

A modest one and a half story white stucco building with wooden lean-to and picket fence. Its main approach is a well-worn path to a porch fronting the broad upland meadow acres of the farm.

(Size 30 x 45 inches.)

Loaned by Robert Fulton Ludlow.

- 23 Portrait by Cheney painted in Canton, China, of Charles Blight, who married Robert Fulton's eldest daughter, Julia.

(Size 7 x 8½ inches.)

Loaned by Mrs. Robert Fulton Blight.

- 24 "Lease of Ferry privileges from Beekman Slip in New York to the Old Ferry of Brooklyn on the Island of Nassau." The original document accorded "to William Cutting and Robert Fulton by the Mayor, Aldermen, and Commonality of the City of New York," January 24, 1814.

(Size 25½ x 33¾ inches.)

Loaned by Robert Fulton Cutting.

- 25 Watercolor Sketch of J. Franklin Reigart (Philadelphia) one of Fulton's ablest biographers, engaged in his study of the inventor's life.

(Oval $5\frac{1}{2} \times 7\frac{1}{4}$ inches.)

Loaned by Mrs. Arthur T. Sutcliffe.

- 26 Original Watercolor drawing of the North River or Clermont. By Richard Varick De Witt in 1855. The correctness of this drawing is certified to by Riley Bartholomew "for some time an officer" on the Clermont.

Owned by The New York Historical Society.

- 26A Model of Clermont, said to be made from wood of same.

Owned by The New York Historical Society.

- 27 Fulton's first Steamboat, The Clermont, on her way up the Hudson. Painted by Robert Fulton Ludlow, grandson of Robert Fulton. Exhibited at the International Maritime Exposition in Bordeaux.

(Size 24×34 inches.)

Loaned by Robert Fulton Ludlow.

- 28 View of the Palisades, New Jersey. Showing early Steamboat Navigation on the Hudson. By William G. Wall. The artist was a favorite early exhibitor in the National Academy of Design, and delighted in Hudson River scenery. He was born in Dublin, Ireland, in 1792, and came to New York in 1818.

Owned by The New York Historical Society.

- 29 Old Colored Wood Engraving, caricaturing Fulton's Torpedo, in guise of the magnetic fish of that name, accompanied with printed fictitious letter dated New Orleans, June 22, 1811, and addressed by "Elias R. Coffin to Wm. Woodnell."

Loaned by Mrs. Robert Fulton Blight.

- 30 Model of City of Newburgh Medal, Hudson-Fulton Celebration 1609-1909 (reverse side) with profiles of Hudson and Fulton.

Loaned by the Sculptor, H. K. Bush-Brown.

- 31 Model of City of Newburgh Medal (obverse) for the Hudson-Fulton Celebration, 1609-1909. A draped female figure, "Newburgh, enthroned among the Mountains of the Hudson," welcomes the naval and ceremonial fleets as they pass up the river in review,—the Half Moon and Clermont, leading.

Loaned by the Sculptor, H. K. Bush-Brown.

- 32 Portrait of George Washington, painted by Charles Wilson Peale in 1780. Washington surveys the battle-field of Princeton, the horse from which he has dismounted, close behind. In the right perspective, are the college buildings; in the left, soldiers with fixed bayonets march past under the flag. This portrait was painted for Washington's personal friend, Judge Elisha Boudinot of the Supreme Court of New Jersey, Commissary of Prisoners in the Revolutionary War, and Chairman of the Committee of Safety of New Jersey.

Three-quarter length figure.

(Size 41 x 28 inches.)

Loaned by Miss J. J. Boudinot.

- 33 Portrait of De Witt Clinton by Charles C. Ingham.

A warm, neutral background gives the figure, clad in plain black relieved with white stock and ruffle at the throat, the fine relieve effect which was one of Ingham's characteristics. The Governor is seated at a desk upon which rests a closed account book. The earnest face turns almost full-front. The head rests upon the right hand; the left drops carelessly to the curved arm of the great red leather chair in which Mr. Clinton sits.

(Size 40 x 49½ inches.)

Loaned by The Ehrich Galleries, New York City.

Charles (Cromwell) Ingham was born in Dublin in 1796 and arrived in the City of New York in 1816. The commanding qualities of his work, especially portraiture, were instantly and cordially recognized by the leading people of his time. "Ingham's Painting has a beauty and transparency of coloring marked by strong lights and deep tones, and an exquisiteness of finish that render it emphatically original as regards this country," wrote

a contemporary critic. It was Clinton (it will be remembered) who assembled in special session the distinguished Societies to which Robert Fulton belonged on learning of the inventor's death.

34 Portrait of Washington by Rembrandt Peale.

A characteristic medallion portrait of Washington, as Commander-in-Chief of the Continental Army, with background of strong sunlight.

(Size 33 x 40 inches.)

Loaned by The Ehrich Galleries, New York City.

Rembrandt Peale was born on the twenty-second of February, 1778, in a rural district of Bucks County, Pennsylvania. His father was Charles Wilson Peale.

35 Portrait of Cadwallader D. Colden by John Wesley Jarvis.

Mr. Colden, Mayor of New York City in 1818; Representative to Congress in 1822; State Senator in 1825, was Robert Fulton's warm friend and chief biographer. The portrait shows him seated in a large red chair, glancing up from his desk as if arrested in his writing by some sudden thought.

(Size 28½ x 35 inches.)

Owned by The New York Historical Society.

36 Vanderlyn's Portrait of Joel Barlow.

Painted in 1813. (Formerly owned by Mrs. Thomas Barlow.) A beautifully-toned, expressive medallion portrait of the distinguished philanthropist, scholar and man of letters, who was one of Robert Fulton's most devoted and loyal friends.

(Size 18 x 12½ inches.)

Loaned by Mrs. Anica Chambers, Washington, Pa.

37 Portrait of Napoleon I.

Painted by Andrea Appiani (Milan, 1797), and brought to America by Joseph Bonaparte. Napoleon was so impressed with the grace, harmony and interpretative genius of this countryman of his, that he appointed him to his special service. Appiani's talent won the decorations of the Legion of Honor and of the

Iron Crown of Monza, and added some of its most beautiful mural paintings to the Royal Palace at Milan. This remarkable portrait shows Napoleon dressed in rich military costume standing in thoughtful attitude. Three-quarter length.

(Size $31\frac{1}{2} \times 33\frac{3}{4}$ inches.)

Loaned by J. Coleman Drayton, New York City.

38 Portrait of Robert R. Livingston by Gilbert Stuart.

Painted about 1796, a year or so after Stuart's head of Washington appeared. This portrait also bears witness to Stuart's "love of painting heads rather than bodies and inanimate details." In the simple costume of an American gentleman of the period, the Chancellor sits in a large velvet chair before a rose-draped writing table in his study. In one hand is a letter sheet inscribed: "Council of Revision" (of the Constitution of the United States); another letter sheet close by is marked "Constitution of the State of New York."

(Size $28 \times 36\frac{1}{2}$ inches.)

Loaned by John Henry Livingston, of Clermont.

39 Vanderlyn's Portrait of Robert R. Livingston.

Mr. Livingston, who was Minister Plenipotentiary of the United States to the Court of the first Napoleon, is seen in a room of his Parisian residence. A warm background is afforded his commanding face and figure by the golden brown hangings of the room. In court attire, he sits in a large crimson cushioned chair before a green draped table, engrossed in thought of a newly-arrived "Plan for the establishing of an Academy of Fine Arts in New York." This portrait was painted at the request of Napoleon in 1802-03, after the purchase of Louisiana.

John Vanderlyn, the artist (1776-1856) was born in Kingston, New York, and was contemporaneously the protégé of Gilbert Stuart and Aaron Burr. His art won the distinguished consideration of Napoleon I and of the American Presidents of his time. The above portrait is classed among the most impor-

tant of his works in Paris, during the Napoleonic era. Vanderlyn's canvases may be studied in the Capitol at Washington and in the Louvre in Paris.

(Size 34 x 45 inches.)

Owned by The New York Historical Society.

- 39A Portrait in black and white of Joel Barlow, by John Vanderlyn in 1798.

(Size 8 x 6 inches.)

Loaned by Hon. Peter T. Barlow, New York City.

- 40 Medallion Portrait of Mrs. Walter Livingston, Mrs. Robert Fulton's mother, painted by Robert Fulton. On the reverse, Fulton sketched a study of his little son, Robert Barlow (usually referred to as "Barlow") Fulton.

Loaned by Fulton's granddaughter, Mrs. Hermann H. Cammann, of New York City.

Note: Walter Livingston, father of Mrs. Robert Fulton and cousin of Chancellor Livingston, was First Custodian of the United States Treasury. His wife was Cornelia (doubly a Schuyler) for her father belonged to the Peter Schuyler (of Albany) family and her mother was Gertrude, sister of General Philip Schuyler, whose presentation of a group of North American Indians at the English Court is the subject of one of the historic floats of the present Commemorative Celebration.

- 41 Autograph letter from Robert Fulton to his Mother, dated Paris, July 2, 1799;—speaking of the moment as being a propitious one for the consideration of a treaty between France and America, and assuring his mother that he is saving his heart for "some amiable American,"—malgré the charming attentions showered upon him abroad. With this letter he also affectionately sends his Mother a remittance of 18 double French guineas (about 36 English guineas).

Loaned by Louis S. Clarke, Haverford, Pa.

- 42 Photograph of Building in which Robert Fulton attended School in Lancaster, Pa. The building is at the corner of Penn Square and East King Street. The school occupied the second story.
Loaned by Mrs. Arthur T. Sutcliffe.
- 43 Color Print of the Fulton Farm.
"A View of the Birth Place of Robert Fulton, Lancaster County, State of Pennsylvania," with vignette of Fulton, and biographic text. Drawn by John H. Sherwin; Color work on stone, L. N. Rosenthal. Published by Reigart and Dellinger, Philadelphia, 1852.
(Size of card, 22½ x 17½ inches.)
Owned by The New York Historical Society.
- 44 Japanese vellum print, showing the Lancaster of 1800, and locating "Store house, Barracks, Gaol, Dutch Presb'y Church, Court House, St. James Church, English Presbyterian Church, Lutheran Church, Roman Cath. Church and Friends Meeting."
Loaned by Mrs. Arthur T. Sutcliffe.
- 45 Autograph letter from Robert Fulton to his brother-in-law, David Morris. With solicitous inquiries about his beloved mother and other members of the family, and giving Fulton's views on the Excise Law, etc. Dated London, September 12, 1796.
Loaned by Mrs. Frank Semple, Sewickley, Pa.
- 46 Autograph Letter from Robert Fulton to his mother. Dated Devonshire, Jany 20, 1792. Relating business transactions with Lord Courtney, Fulton's tour in France and his art progress there, and his going back to London.
Loaned by Mrs. Frank Semple, Sewickley, Pa.
- 47 "La Blanchiseuse."
India ink sketch by Robert Fulton. The date, March 15, 1783, shows this to have been among Fulton's earliest efforts and therefore is of particular interest.
(Size of card 11 x 13 inches.)
Loaned by E. Bringhurst, Jr., Wilmington, Del.

- 48, 50 Photographs of humorous pen and ink sketches made by Robert Fulton in 1812-1813. One of these tells the story of his amusing "perpetual motion fraud exposé." There are ten drawings in two frames. (Exhibited at the International Maritime Exposition in Bordeaux.)

Loaned by Robert Fulton Ludlow.

- 49 Pastel Portrait of Margaret Ross. By Robert Fulton in 1787. This charming example of Fulton's early art, shows Miss Ross as she was entering the social coterie of her native Philadelphia. She wears on her head a high-piled turban of lace, flowers and pearls; she is dressed in a simple low-cut white bodice and full, flowered skirt; in one hand she holds an opening rose.

Of this portrait, Fulton's great-granddaughter, Alice Crary Sutcliffe, says in her article on "The Early Life of Robert Fulton" (Century Magazine, September, 1908): "The only known pastel portrait made by Robert Fulton is that of Margaret Ross at sixteen, . . . at present owned by Mrs. C. S. Bradford of Philadelphia. . . . Margaret and Clementina Ross were daughters of John Ross, a successful merchant of Philadelphia, to whom Fulton was introduced by a letter from Dr. Franklin."

(Oval, size 9½ x 6½ inches.)

Loaned by Mrs. Charles Sydney Bradford, Philadelphia.

- 51 Sketch in India Ink. Signed by Robert Fulton. Rustic scene with river and ruins. (Size 11½ x 8½ inches.)

Loaned by E. Bringhurst, Jr., Wilmington, Del.

- 52 Photograph of marble bust of Robert Fulton, executed by Bremond from the Houdon original (modelled from life), and presented to the City Council of Charleston, South Carolina, by J. H. Mey, Esq. of that City.

The pedestal is inscribed: "Robert Fulton, the Father of Steam Navigation; by his genius and labor with the generous assistance of Robert R. Livingston, American Minister to France, he contributed largely to the Progress of Commerce throughout the World."

"The City of Charleston re-erects here this Memorial Bust to keep his Beneficent Achievements in Constant Remembrance, 1883."

Loaned by Mrs. Arthur T. Sutcliffe.

- 53 Photograph of marble bust of Joel Barlow, by Jean Antoine Houdon. Among Houdon's chief European marbles are the statue of Voltaire in the peristyle of the Théâtre Français and the statue of Diana ordered by Catherine II of Russia. Two of Houdon's works for public buildings in America are his statue of Washington for the Capitol in Richmond, Va., and his bust of the Marquis de LaFayette, for the same place.

Original owned by Mrs. Thomas Barlow.

Photograph loaned by Mrs. Anica Chambers, Washington, Pa.

- 54 Photograph of the marble statue of Robert Fulton in the Capitol at Washington. The statue, which is of heroic size, shows the inventor seated, studying a Steamboat model, with MSS. plans and documents at his feet. It was executed by Howard Roberts in 1881.

Loaned by Mrs. Arthur T. Sutcliffe.

- 55 Colored Lithograph by H. Hayward (for Valentine's Manual 1864) of Fulton Ferry. "Built of Iron 1863."

Loaned by Mrs. Arthur T. Sutcliffe.

- 56 Print reproduction of a Portrait of Fulton's friend and adviser, Thomas Addis Emmet, painted by Elizabeth Emmet with the assistance of Robert Fulton. The original portrait is owned by Dr. Thomas Addis Emmet.

Loaned by Mrs. Arthur T. Sutcliffe.

- 57 Print reproducing a Portrait of Mrs. Jane Patten Emmet, wife of Thomas Addis Emmet, by Elizabeth Emmet, under the direction of Robert Fulton.

Loaned by Mrs. Arthur T. Sutcliffe.

- 58 Photograph of West's Portrait of Fulton. Exhibited at the International Maritime Exposition of 1907, in Bordeaux.

Loaned by Robert Fulton Ludlow, of Claverack, N. Y.

- 59 Fulton's Original Bill of Disbursements from June 25, 1808, to April 24, 1809, for expenses incurred in altering the *Clermont*, thereafter termed the North River; also of expenditures "For the New Boat" (probably the Car of Neptune, or the Raritan), from June 9 to June 28 of the same year. An interesting item in this bill is: "To Mr. Roosevelt, on Mississippi expedition, \$600." This refers to Mr. Nicholas Roosevelt's surveying tour of the Mississippi River when the establishment of Fulton's and Livingston's Steamboat Line on Western Waters was under consideration.

Loaned by Joseph B. Learmont, Montreal, Can.

- 60 Original letter (date of Oct. 9, 1807) from Robert Fulton to Capt. Andrew Brink, commander of the *Clermont*. This letter, instructing the Captain not only how to *command* but how to obtain *obedience* to his commands, is an interesting key to the inventor's own character.

Loaned by Mr. Benjamin Myer Brink.

- 61 Four steel engravings of Fulton (framed); the first is by the United States Bureau of Engraving and Printing; the second by Leney for the *Analectica* (Magazine); the third is unsigned, and the fourth is by Murilton.

Loaned by Mrs. Hermann H. Cammann.

- 62 White-metal Medal (in silver frame) with relieve portrait of Robert Fulton, and the inscription: "Fulton Institute, Lancaster, Pa. Founded 1858."

Loaned by Mrs. Arthur T. Sutcliffe.

- 63 Steel Engraving of Robert Fulton; by Cramp, Paternoster Row, London.

Loaned by Mrs. Hermann H. Cammann, New York City.

- 64 Old wood engraving of Robert Fulton, "Presented to Dr. Crary by the daughter of the Stewardess of The Clermont."
Loaned by Rev. Dr. Robert Fulton Crary, Matteawan, New York.
- 65 Five (framed) Portrait Engravings of Fulton; consecutively by Jackman for D. Appleton; by Leney (from West's Portrait); unnamed; by Parker, and from the original painting by Chappel.
Loaned by Mrs. Hermann H. Cammann.
- 66 Original promissory note for \$8,000 (payable by Robert Fulton to Robert R. Livingston), dated Jan. 8, 1812.
Loaned by Robert Fulton Ludlow.
- 67 Miniature by James Freeman, Paris, of Julia Fulton Blight, dressed in costume of 1830; with landscape background.
Loaned by Mrs. Robert Fulton Blight.
- 68 Miniature by Robert Fulton, of Major Michael McCurdy.
Loaned by Mrs. George McHenry through Miss Mary S. Buckley of Chestnut Hill, Philadelphia.
- 69 Miniature of Robert Fulton. Painted during Fulton's residence abroad. Artist unnamed.
This Miniature was purchased about 1867, by Mr. C. Colles of Copenhagen (an uncle of the present owner) from an Art dealer in London, who informed Mr. Colles that it had formerly belonged to Fulton's friend, the Earl of Stanhope.
Loaned by Mrs. E. Brewster, Newark, N. J.
- 70 Miniature reproduction of West's Portrait of Robert Fulton. By Robert Fulton.
Loaned by Mrs. Robert Fulton Blight.
- 71 Ivory miniature of Robert Fulton painted by himself while in Paris.
Loaned by Mrs. Joseph W. Drexel, through Mrs. John Duncan Emmet.

- 72 Miniature (artist unknown) of Mrs. Robert (Harriet Livingston) Fulton in Empire costume.
Loaned by Mrs. Robert Fulton Blight.
- 73 Miniature of Samuel Beach, painted by Robert Fulton in 1785.
Loaned by H. A. Boardman, St. Paul, Minnesota.
- 74 Watercolor head of Rev. Dr. Crary when a child. Painted by his Aunt, Julia Fulton.
(Size $2 \times 3\frac{3}{4}$ inches.)
Loaned by Rev. Dr. Robert Fulton Crary.
- 75 Miniature by Mrs. Robert Fulton in 1815, of Eugene Sue's "Wandering Jew."
(Size $2\frac{5}{8} \times 3\frac{5}{16}$ inches.)
Loaned by Mrs. William Barclay Parsons, Sr., New York City.
- 76 Small Clapsed leather Account Book—used by Mrs. Robert Fulton, as a Memorandum of her daily expenses, and a partial family record; it also contains several portraits, landscape sketches, and drawings.
Loaned from the estate of Fulton's daughter, Cornelia Livingston Crary.
- 77 Pencil sketch of Cornelia Livingston Fulton, by her mother, Mrs. Robert Fulton.
Loaned from the estate of Cornelia Livingston Crary.
- 78 Miniature of Fulton's eldest children—Robert Barlow and Julia—painted from life in Paris.
Loaned by C. F. Crary, Merrick, L. I.
- 79 Miniature of Robert Fulton—painted from life in Paris.
Loaned by C. F. Crary, Merrick, L. I.
- 80 Miniature of Mrs. Robert Fulton—painted from life in Paris.
Loaned by C. F. Crary, Merrick, L. I.

- 81 Daguerreotype reproduction of black and white portrait of Fulton, by John Vanderlyn.

Loaned by Mrs. Frank Semple, Sewickley, Pa.

- 82 Photograph of carved tortoise shell back comb worn by Cornelia Livingston Fulton. (The original is owned by Mrs. E. C. Cammann.)

Loaned by Mrs. Arthur T. Sutcliffe.

- 83 The Compass by which Pilot Acker directed the course of Fulton's first steamboat, The Clermont.

This compass came into the possession of Christian Cooper through Mr. Acker. It was presented to Robert Fulton Ludlow by Mrs. Cooper, April 22, 1891.

Loaned by Robert Fulton Ludlow.

- 84 Extra Illustrated Edition de luxe of "The Columbiad" by Joel Barlow, published in 1807 by Fry and Kammerer of Philadelphia and dedicated to Robert Fulton, to whom was due "the elegant selection" of the copious, rare and beautiful steel and wood engravings and color prints of classic and historic scenes and personages that adorn this work. 3 volumes; quarto. Book plate of former owner, the late Samuel Latham Mitchell Barlow.

Frontispiece, a steel engraving of Fulton's Portrait of Mr. Barlow, under which is inscribed (from the 8th book of the poem)

. . . "The Warrior's name
Tho' pealed and chimed in all the tongues of fame
Sounds less harmonious to the grateful mind
Than his who fashions and improves mankind."

Following the frontispiece are steel engravings of the portraits of Fulton painted by Benjamin West and Miss Emmet.

In his preface to the work, Mr. Barlow addresses Fulton:

"My dear friend: This poem is your property. . . . Take it then to yourself and let it live a monument to our friendship . . . your inventive discoveries in the useful Arts, the precision and extension of your views in the physical sciences and in their appli-

cation to the advancement of society and morals, will render it proper that the lines you have selected and written under my portrait, should be transferred to *yours*. Posterity will vindicate the right and fix them in their place."

Loaned by Hon. Peter T. Barlow, New York City.

- 85 Silver Watch of peculiar design, presented to Robert Fulton by the City of Plombiers, France, in 1802, near which place Fulton was then experimenting with the first principles of steam navigation.

This watch was inherited by the present loaner, Mrs. Cornelius H. Howard of Dorchester, Mass., from her father, Michael Butler.

Loaned by Mrs. Cornelius H. Howard, Dorchester, Mass.

- 86 Miniature of Walter Livingston. On the reverse of the miniature is inscribed: "The likeness of my beloved Father, Walter Livingston. Harriet Livingston, Tiviot Dale, Livingston Manor." In richly wrought silver frame.

Loaned by Mrs. William Barclay Parsons, Sr., New York City.

- 87 Small Silver Snuff Box presented by Robert Fulton to his friend Isaac C. Cooke.

Loaned by Mrs. William Crocheron.

- 88 White Metal Memorial Medallion, with relieve of The Clermont on obverse; reverse inscribed: "Sacred to the Memory of Robert Fulton, one of the most illustrious Benefactors of Mankind."

Loaned by Mrs. Hermann H. Cammann, New York City.

- 89 Mrs. Robert Fulton's card case of carved ivory.

Loaned by Mrs. Hermann H. Cammann, New York City.

- 90 High back comb of amber shell worn by Julia Fulton Blight.

Loaned by Mrs. Robert Fulton Blight.

- 91 Pair of dainty satin slippers, worn by Julia Fulton Blight.
Loaned by Mrs. Robert Fulton Blight.
- 92 Pair of slippers, in fine morocco and blue satin with silver embroidery—worn by Julia Fulton Blight.
Loaned by Mrs. Robert Fulton Blight.
- 93 Old Burslem semi-China plate (E. Wood & Sons) showing a Union Line Steamboat on its way up the Hudson. Sea-shell border.
Loaned by Samuel V. Hoffman.
- 94 Jug-shaped Pitcher of rare old cream Liverpool ware (with gold bands) commemorating the death of Washington and the genius of Fulton, and bearing the arms of the United States.
Loaned by Samuel V. Hoffman.
- 95 Highly glazed white pate tendre fruit dish in gold basket-work on pedestal with rose du Bari bands, belonging to a service used by Robert Fulton.
Loaned by Mrs. Robert Fulton Blight.
- 96 Old Liverpool ware sugar bowl with lustre bands and picture of Fulton's Steamboat Clermont.
Loaned by Mrs. Hermann H. Cammann, New York City.
- 97 Bronze Inkwell used by Robert Fulton; nautical emblems and devices.
Loaned by Mrs. Arthur T. Sutcliffe.
- 98 Urn-shaped Vase from a set of highly-glazed pâte tendre presented to Robert Fulton by Thomas Jefferson. Decorated with the Arms of the United States.
Loaned by Robert Livingston Jenkins, Lebanon, Pennsylvania, through Miss Julia A. Jenkins.
- 99 Large white and blue Delft Platter with oval marine view of the ship Neptune passing the blockade established in Amer-

ican ports during the Louisiana territory difficulties of 1814. Concave octagon border with seaweed device. Title, and signature "I. and G. A." on reverse, under glaze.

Loaned by James F. Edge, Hackensack, N. J.

- 100 Silver plated copper Candlestick used by Mary Fulton Morris—a sister of Robert Fulton.

Loaned by John C. Alrich, Pittsburgh, Pa.

- 101 Large Colonial Silver Ladle—formerly belonging to Mary Fulton Morris, sister of Robert Fulton. Engraved with initial "M."

Loaned by John C. Alrich, Pittsburgh, Pa.

- 102 Silver plated copper Candlestick with extension-top owned by Mary Fulton Morris.

Loaned by John C. Alrich, Pittsburgh, Pa.

- 103 Old Burslem semi-China Plate (E. Wood & Sons) with early view of Albany.

Loaned by Samuel V. Hoffman.

- 104 Autograph letter from Robert Fulton to John Livingston (Louisville, Ky.): Concerning the building of Fulton's boats. Dated New York, Aug. 1, 1814.

Loaned from the Estate of Fulton's daughter, Cornelia Livingston Crary.

- 105 Original (Mss.) Ratification of Articles of Agreement "entered into and executed by you and the Hon^{ble} Robert R. Livingston, dec^d, dated Paris 'Oct. 10, 1802,' addressed to Robert Fulton, and signed Robert L. Livingston, Edw^d P. Livingston." Clermont, June 21, 1814.

Loaned from the Estate of Cornelia Livingston Crary.

- 106 Autograph Mss. "Experiments on the model of a boat to be moved by a steam engine" with original drawings, dated Paris the 19 Nevoise An 11 (January the 19th, 1803), presented to

Robert Fulton Crary—(eldest grandson of Robert Fulton and son of Cornelia Livingston Crary)—by his friend Philip Hamilton, son of Alexander Hamilton. Eight of these experiments are minutely described.

Loaned by Rev. Dr. Robert Fulton Crary, Matteawan, N. Y.

- 107 Analytical observations, calculations and experiments on and with "Moving Boats by Machinery" (original mss.) by Robert Fulton, illustrated with many mechanical drawings.

Dated Plombieres, the 5th of June, 1802.

Loaned from the Estate of Cornelia Livingston Crary.

- 108 Autograph letter from Robert Fulton to John Livingston; concerning contract for steamboat repairs, etc. Dated February 5th, 1814.

Loaned from the Estate of Cornelia Livingston Crary.

- 109 Original (signed) Mss. "Extract from the Deposition of Nicholas J. Roosevelt, given and sworn to on the 28th of August, 1811." In this deposition, Mr. Roosevelt says: "This deponent believes the Steamboat as established and organized by Robert Fulton to be a new science, not practised nor written in any book which has come to the knowledge of this deponent before the construction of the first Steamboat on the North River by Mr. Fulton in 1806."

Loaned from the Estate of Cornelia Livingston Crary.

- 110 First volume of Robert Fulton's Mss. Note book on Torpedoes (illustrated with sketches by himself). In the opening paper, dated March 26, 1813, Fulton gives full instructions for preparatory examination of and actual practise with Torpedoes. The second paper is a letter to Mr. Swartwout (commanding one of Fulton's Boats) concerning the manning of the Torpedo boat and the distribution of Government premiums received by such boats for prizes.

The third paper contains a suggestion to attach Torpedoes to spars, placing these deep in the water under a line of Battleships.

Among other papers are instructions to Capt. Welden, and communications to Hon. William Jones, Secretary of the Navy, and to Commodore Decatur. The last paper is signed by Robert Fulton and James McGowan and is dated New York, Apr. 23, 1814.

Loaned from the Estate of Cornelia Livingston Crary.

- 111 Scientific Description of Plates Illustrating Robert Fulton's Notes on the Submarine Vessel, dated London, June 12th to the 20th, 1804. These plates Mr. Fulton characterized as "the last and most perfect of my drawings on this subject."

Loaned from the Estate of Cornelia Livingston Crary.

- 112 Original Mss. by Robert Fulton "On Submarine Navigation and Attack." Its detailed caption is: "Reason why I directed my attention to such Inventions"—"Negociations with the British Government on the Subject"—"Descriptions of the Engines and Several Modes of using them"—"Reasonings on the Consequences of such Inventions." . . .

"These Papers I read to Sir Charles Blagden, Capt. Hamilton, the Rev. Dr. Cartwright, and Alexander Davison, Esq^r. on the 18th of August 1806," writes Fulton in the preface.

Loaned from the Estate of Cornelia Livingston Crary.

- 113 Mss. letter dated Paris, 22nd Fructidore, An 9. from Robert Fulton to Citizens Monge, La Place and Volney—Members of the National Institut, Commissioners appointed by the First Consul to promote the invention of Submarine Navigation: "Giving the results of my experiments during the Summer, also the mode which I conceive the most effectual for using the invention against the enemy."

Loaned from the Estate of Cornelia Livingston Crary.

- 114 Volume II of Robert Fulton's Note Book. From May 21st, 1804, to January 31st, 1811: containing extracts from pamphlets sent to Paris by Fulton to Messieurs Volney, LaPlace, Proney and Gueyton de Morreau of the Institut, and to Generals Rapp

and Resicourt; Messrs. Armstrong, Parker, Narderi, Short, Liv-
insworth, Sargent, the Abbey Grégoire, and Briguet; together
with these extracts are reports of various important Committees
convened at that epoch, and autograph communications with and
to the Hon. Wm. Pitt (to whom Fulton was known by his nom-
de-plume "Robert Francis"), Lord Melville, Lord Popham, Lord
Castlereagh, Lord Grenville, the Hon. Chas. Gray and other
leading home and foreign state dignitaries and diplomatists.

Loaned from the Estate of Cornelia Livingston Cray.

- 115 Autograph letter from Robert Fulton to Mr. Prentice—dated
New York, April 13, 1812: On the Steamboat navigation of the
Delaware by Mr. Stevens, and the claims made by that gentleman
and others in the matter of Steamboat invention.

Loaned from the Estate of Cornelia Livingston Cray.

- 116 Original letter of Robert Fulton—to Hon. Wm. Jones—Secre-
tary of the Navy—illustrated with mechanical drawings. Dated
Apr. 19, 1813: concerning the comfort and satisfaction to be
experienced by properly protecting the waters of the country.

Loaned from the Estate of Cornelia Livingston Cray.

- 117 Original Contract between Robert Fulton and Nicholas Roosevelt
(dated 16th September, 1813), concerning mutual interests in
the Indian Territory.

Loaned from the Estate of Cornelia Livingston Cray.

- 118 Mss. letter to Robert Fulton dated:

"Paris, 7th Germinal, the 9th
year of the One and Indivisible
Republic."

1st. Division
Bureau des
Ports.

Referring to the writer's letter (date of the 8th Ventos) an-
nouncing the First Consul's acceptance of Fulton's proposition

concerning the Nautilus, and detailing the arrangements made for her purchase and safe conveyance into the port of Brest.

Signed: "Forfait."

Loaned from the Estate of Cornelia Livingston Crary.

119 Translation of 118.

120 Autograph letter to Robert Fulton from Chevalier Ch. Paul Svenine, dated 19th May, 1813—concerning the introduction of Fulton's Steamboat into Russia,—towards which attainment the Chevalier had been influential.

Loaned from the Estate of Cornelia Livingston Crary.

121 Original letter from Boulton, Watt & Co. to Robert Fulton, dated Soho, 26th Oct^r 1811—advising the inventor that they await his instructions as to the delivery of a Cylinder, a brass Air pump, etc., for shipment to America.

Loaned from the Estate of Cornelia Livingston Crary.

122 Autograph letter from Robert Fulton to John Livingston, dated New York, Jany. 26, 1814—with statement of the expenses of the Mississippi boats and the Capital subscribed for the same.

Loaned from the Estate of Cornelia Livingston Crary.

123 Autograph letter from Robert Fulton to John Livingston, dated New York, Feb. 8, 1814: counselling the constant and systematic practise of economy, "in this new and expensive undertaking," and expressing surprise at extra cost of building the boats therein mentioned.

Loaned from the Estate of Cornelia Livingston Crary.

124 Autograph letter from Robert Fulton to John Livingston, dated New York, Feb. 14, 1814: concerning Edward Livingston's purchase of interests in the Mississippi boat.

Loaned from the Estate of Cornelia Livingston Crary.

- 125 Autograph letter from Robert Fulton to John Livingston, dated New York, Feb. 15, 1814: concerning expenses for putting the Vesuvius in order.

Loaned from the Estate of Cornelia Livingston Crary.

- 126 Autograph letter from Robert Fulton to John Livingston—dated New York, March 5th, 1814: on the passage of the Vesuvius under command of Capt. Ogden, and on Mr. Gale's appointment as Supercargo.

Loaned from the Estate of Cornelia Livingston Crary.

- 127 Autograph letter from Robert Fulton to John Livingston—dated New York, March 9, 1814: concerning the departure of Capt. Pales, Livingston's sale of patentee's rights, etc.

Loaned from the Estate of Cornelia Livingston Crary.

- 128 Autograph letter from Robert Fulton to John Livingston—dated Albany April 9, 1814: concerning transactions with Capt. Ogden, etc.

Loaned from the Estate of Cornelia Livingston Crary.

- 129 Autograph letter from Robert Fulton to John Livingston—dated New York, April 19, 1814: relative to the sailing of the Vesuvius, etc.

Loaned from the Estate of Cornelia Livingston Crary.

- 130 Autograph letter from Robert Fulton to John Livingston—concerning prompt returns of Steamboat earnings.

Dated New York, April 21, 1814.

Loaned from the Estate of Cornelia Livingston Crary.

- 131 Autograph letter from Robert Fulton to John Livingston—dated New York, April 30th, 1814: concerning Capt. Ogden's obligation for the safe delivery of the Vesuvius at New Orleans.

Loaned from the Estate of Cornelia Livingston Crary.

- 132 Autograph letter from Robert Fulton to John Livingston: concerning the happy prospect for New Orleans Steamboat traffic, etc.
Dated New York, June 28, 1814.
Loaned from the Estate of Cornelia Livingston Crary.
- 133 Autograph letter from Robert Fulton to John Livingston: relative to the success of the Vesuvius, etc.
Dated New York, May 9, 1814.
Loaned from the Estate of Cornelia Livingston Crary.
- 134 Autograph letter from Robert Fulton to John Livingston. Dated Nov. 18, 1814: regarding purchase of Mississippi shares.
Loaned from the Estate of Cornelia Livingston Crary.
- 135 Autograph letter from Robert Fulton to John Livingston dated New York, Sept. 22, 1814: announcing the appointment of Capt. Clement as commander of the Vesuvius—vice Capt. Ogden.
Loaned from the Estate of Cornelia Livingston Crary.
- 136 Probate Mss. Copy of the Will of Robert Fulton, certified by Silvanus Miller (Surrogate) at the City of New York the 27th day of February, 1815, as "a true copy." The *ORIGINAL WILL* is in the possession of the Estate of Fulton's daughter, Cornelia Livingston Crary.
Loaned by the Estate of Cornelia Livingston Crary.
- 137 Original issue of a New York newspaper—"The Columbian"—dated Feb. 25, 1815—with Notice of the death of Fulton and Resolutions on this event, framed by the distinguished Societies of which he was a member.
Loaned by the Estate of Cornelia Livingston Crary.
- 138 Autograph Mss. of Fulton's Essay: "To the Friends of Mankind on the Advantages of Free Trade," commencing: "If we are animated by a virtuous desire to aid the cause of humanity and hope to see mankind arrive at a state of tranquillity, justice and friend-

ship of which their nature is capable, it is necessary we should understand the true and simple interests of society or—with the best wishes for the public welfare—we should be liable to follow established errors.”

Loaned from the Estate of Cornelia Livingston Cary.

- 139 Original Mss. Essay by Robert Fulton, “Thoughts on Free Trade”—commencing: “It is almost needless to remark that if Nations Industrious improved their local Advantages and exchanged their produce with their neighbors without duty or interruption, the cause of jealousies and wars would, in a great measure, be removed, and Peace—producing Abundance and happiness—would be more within the reach of Mankind.”

Dated Oct. 9, 1797.

Loaned from the Estate of Cornelia Livingston Cary.

- 140 Autograph letters written in Paris, 1798, by Robert Fulton to the Earl of Stanhope.

Explaining Fulton’s projects for the Construction of Canals.

Loaned from the Estate of Cornelia Livingston Cary.

- 141 Autograph letter from Robert Fulton to John Livingston, dated New York, July 28, 1813—presenting Mr. Hurley, for whom “every information and facility in collecting timber for a Steam-boat,” etc., is requested.

Loaned from the Estate of Cornelia Livingston Cary.

- 142 Autograph letter from Robert Fulton to John Livingston, dated New York, September 7th, 1813, with inquiries as to the build, capacity and services of the Comet and instructions regarding vouchers for expenditures for the New Orleans boats, etc.

Loaned from the Estate of Cornelia Livingston Cary.

- 143 Autograph letter from Robert Fulton to John Livingston, dated New York, October 22nd, 1813, specifying disbursements from enclosed draft.

Loaned from the Estate of Cornelia Livingston Cary.

- 144 Autograph letter from Robert Fulton to John Livingston, dated New York, October 28th, 1813: enclosing funds and orders for the finishing and manning of the Mississippi boats, etc.
Loaned from the Estate of Cornelia Livingston Crary.
- 145 Autograph letter from Robert Fulton to John Livingston, dated New York, Nov. 4, 1813: concerning moneys expended for Mississippi Line, etc.
Loaned from the Estate of Cornelia Livingston Crary.
- 146 Autograph letter from Robert Fulton to John Livingston, dated Philadelphia, Nov. 11th, 1813; with enclosure for Edward Livingston.
Loaned from the Estate of Cornelia Livingston Crary.
- 147 Autograph letter from Robert Fulton to John Livingston, dated New York, November 26, 1813: Describing the start of the Fulton: "the handsomest thing in the world," and her trial race to Newburgh against the Paragon.
Loaned from the Estate of Cornelia Livingston Crary.
- 148 Mss. of Address delivered by Philip Hone (Mayor of New York City) July 4, 1826—in celebrating the opening of the Erie Canal.
His Honor then presented a gold medal to the children of Robert Fulton (through Fulton's illustrious friend, Mr. Colden) with these words: "For the benefits resulting from this momentous discovery" (the power of Steam against wind and tide) "the United States are indebted to the Talents and Perseverance of Robert Fulton and for this his Country delights to honor his memory. . . . Few individuals in our country have possessed stronger claims upon its Gratitude than your lamented Father."
Loaned from the Estate of Cornelia Livingston Crary.
- 149 Colored Lithograph "Launch of the Steam Frigate, Fulton the First at New York 29th Oct. 1814"—(from the original sketch by Morgan). Published in Valentine's Manual, 1852.
Loaned by Mrs. Arthur T. Sutcliffe.

- 150 Colored Map "of that part of the Town of Jersey commonly called Powles Hook"—drawn by Stephen Denfer in Newark, March 16, 1813—from "A True Copy."

Loaned from the Estate of Cornelia Livingston Crary.

- 151 Portfolio of 12 detailed Watercolor drawings (by Robert Fulton) of Steamships and Steamship Mechanism,—with accompanying text and explanatory "Definitions, Tables and Calculations in the words of the said Robert Fulton himself, of his Discoveries, Inventions and Improvements on Steamboats," with the seal of the United States and the signature of James Monroe.

Dated: "City of Washington, the 24th day of January, A. D. 1816."

Owned by The New York Historical Society.

- 152 Portfolio of Original Washdrawing plans and details, presented to M. Augustin de Betancourt, Paris, by Robert Fulton.

"For the Construction of Canals on cheap principles." Vendémiaire the 18th, An 7.

Owned by The New York Historical Society.

- 153 "Sur les Moyens proposés pour la destruction des Vaisseaux de Guerre, la défense des Ports et des Rades." By Robert Fulton. (Bulletin de la Société d'Encouragement, No. LXXIII.) Engraved plate, folded.

Owned by The New York Historical Society.

- 154 (New York) American Citizen, Monday, August 17, 1807.

With notice, (page 2, column 3), of the sailing of Mr. Fulton's Steamboat—from the North River near the State Prison,—to Albany.

Owned by The New York Historical Society.

- 155 New York Evening Post, Saturday, August 22, 1807: Containing (page 3, column 2), a Letter of Robert Fulton dated New

York, August 20—describing his trip on the Clermont from New York to Albany and return.

Owned by The New York Historical Society.

156 Group of Four Lithographs from Valentine's Manual for 1859:

The Fulton Ferry Boat Wm. Cutting, 1827.

The Fulton Ferry Boat Olive Branch, 1836.

The Fulton Ferry Boat Union, 1836.

The Fulton Ferry Boat Over, 1840.

Owned by The New York Historical Society.

With these—is an engraving (by America's first wood engraver—Alexander Anderson)—of Fulton's Steamboat Paragon—built in 1811.

Owned by The New York Historical Society.

156A Print of the Troy Steamboats Erie and Champlain (built in 1832) passing "Saint Anthony's Nose" on the North River.

Owned by The New York Historical Society.

157 Photograph of Letter (original in British Museum) from Robert Fulton to Citoyen Directeur Baras) dated 6 Brounaire, An 7, calling attention to the great protection to Maritime commerce afforded by the adoption of Fulton's Torpedo System.

Owned by The New York Historical Society.

158 Ledger 1812 to 1833 inclusive of disbursements from the Livingston and other Estates to various parties and individuals.

Owned by The New York Historical Society.

159 Printed Appeal for "contributions towards discharging to Fulton's heirs the heavy debt due to that illustrious benefactor of mankind, and to them."

Signed by Matthew, Carey and twelve others.

Dated: Philadelphia, Sept. 3, 1830.

Owned by The New York Historical Society.

160 Robert Fulton's Family Tree.

Loaned by Mrs. Arthur T. Sutcliffe.

- 161 Autograph letter from Robert Fulton to J. Pintard, Esq., dated New York, Oct. 17, 1814, transmitting General Gate's papers to The New York Historical Society.
Owned by The New York Historical Society.
- 162 Robert Fulton. Torpedo War and Submarine Explosions, with 5 plates and one original pen drawing. Dedicated to President Madison and the Members of both Houses of Congress. New York, 1810.
Owned by The New York Historical Society.
- 163 Original letter from Robert Fulton to Robert R. Livingston of Clermont, New York, dated Washington, November the 20th, 1807, outlining plans and cost of new boats demanded by greatly increased Hudson River passenger and boat traffic; with partial outline of proposed hull.
Loaned by Samuel V. Hoffman.
- 164 Robert R. Livingston's Account Book.
Owned by The New York Historical Society.
- 165 Photograph of original illustrated letter written by Robert Fulton (dated New York, Nov. 26, 1814) concerning the weight the ice of Lake Ontario would sustain; a plan to surprise the enemy at Kingston, and promising utility presented by the invention of the new steam frigate.
Owned by The New York Historical Society.
- 166 Plans of the Hudson River Steamboat Chancellor Livingston built from Fulton's last plans; this steamboat was next in tonnage to Fulton the First. Engraved in 1820 by Akrell.
Owned by The New York Historical Society.
- 167 Four photographs giving three different views of a clockwork, flintlock Submarine Torpedo invented by Robert Fulton in 1812, and showing the inscription on the Torpedo as seen at the War Department Exhibit at the Jamestown, Va., Celebration.

The original Torpedo is owned by Col. Cornelius Cadle of Cincinnati, Ohio.

Owned by The New York Historical Society.

- 168 Wood engraving published by B. Tanner (Philadelphia, March 27, 1815) and drawn by J. Barralet from a sketch made by M. Morgan on the spot and at the moment of the "Launch of the Steam Frigate Fulton the First, New York, 29th Oct. 1814." (Illustrative of Fulton's work on "Steam Navigation for Floating Batteries," written in the spring of 1814.) The Fulton the First (Tonnage 2475) was the first Steam Vessel of War in the World.
Owned by The New York Historical Society.

- 169 Autograph letter from Robert Fulton to Mamy West, dated Dover (Eng.) October 16th, 1805, graphically detailing Fulton's successful Torpedo attack on a Danish brig in Walmer Roads; this experiment was made to show that the failure at Bologne was entirely due to faulty arrangements.
Loaned by Samuel V. Hoffman.

- 170 Group of 14 documents of great importance in the history of the invention of the Steamboat. To quote from one of them: "They were all once in the possession of John D. DeLacey, who was the business agent of Chancellor Livingston and Robert Fulton in their Steamboat enterprises."

Original memorandum of an agreement on the use of their patent rights in the construction of Steamboats, by Robert Fulton and Robert R. Livingston on the one part and John Stevens on the other part; all in the handwriting of Robert Fulton.

Owned by The New York Historical Society.

- 171 Autograph letter from Robert Fulton to Senator Stephen Rowe Bradley, dated New York, March 5, 1810, expressing Fulton's gratitude for the passage of the vote for "a sum sufficient to prove principles which I hope even those who were opposed will hereafter be convinced are of infinite importance to our country."
Owned by The New York Historical Society.

- 172 Autograph letter from Robert Fulton to Paul Hamilton, Secretary of the Navy, dated New York, May 9th, 1810, explaining the use of moneys voted by Congress for Torpedo experiments, stating his expenses in attaining the result, and establishing a caveat against party pretensions.
Owned by The New York Historical Society.
- 173 Original Mss. Contract between Livingston, Fulton and DeLacey (dated Oct. 27, 1812)—for the construction and service of a Steamboat line to navigate the James River and adjacent waters; with Affidavit of Peter Lohra, Notary Public, Philadelphia.
Owned by The New York Historical Society.
- 174 Original Mss. Articles of Agreement entered into between Robert R. Livingston and Robert Fulton, January 26, 1813.
Owned by The New York Historical Society.
- 175 Autograph letter from D. Mackenzie, President of the Appomattox Steamboat Company, to Robert Fulton, dated Petersburg, April 13, 1813; on the subject of the proposed Steamboat line.
Owned by The New York Historical Society.
- 176 Original draft (in DeLacey's handwriting) of Fulton's letter to John Stanley, Esq., dated New York, Dec., 1813, concerning the application of John Stevens for exclusive privilege to run Steamboats on the waters of North Carolina.
Owned by The New York Historical Society.
- 177 Exception to Award in Canal Case. Robert Fulton, John L. Sullivan, 1813.
Owned by The New York Historical Society.
- 178 Autograph Memorandum by Mr. Fulton on "Steam Floating Batteries," dated Spring, 1814, and prepared for newspaper publication in Washington.
Owned by The New York Historical Society.

- 179 Autograph letter from Robert Fulton to John D. DeLacey, dated Albany, March 20th, 1814, referring to the construction of Fulton's boats.
Owned by The New York Historical Society.
- 180 Original letter from Robert Fulton to Mr. Monroe, dated Rosses Tavern, Dec. 27, 1814; concerning Dr. Thornton at the patent office in Washington and his statements as to Dalton's inventions.
Owned by The New York Historical Society.
- 181 Original Mss. "Summary of the contents of the several papers of vouchers connected with my contracts with Livingston and Fulton"—in autograph of DeLacey—by whom the document was drawn up. Dated: Philadelphia, Jan. 7, 1828.
Owned by The New York Historical Society.
- 182 Estates of Robert R. Livingston and Robert Fulton (deceased) in account with John D. DeLacey, January, 1828.
Owned by The New York Historical Society.
- 183 In equity—John D. DeLacey vs. Representatives of Robert R. Livingston and Robert Fulton. February 3, 1828.
Owned by The New York Historical Society.
- 184 The case of James Jackson, ex dem, Martha Bradstreet vs. John Kirtland, in the United States District Court, for the Northern District of the State of New York.
Dated, January 7, 1829.
Owned by The New York Historical Society.
- 185 List of Witnesses to Contract of Appomattox Steamboat Company.
Petersberg, Va., 1828.
Owned by The New York Historical Society.
- 186 Opinion of John D. DeLacey, on international law. Dated New York, 1828.
Owned by The New York Historical Society.

- 187 Original Mss. Notes by Robert Fulton defining the meaning and purpose of "Equity," "Virtue" and—conjointly—of "laws controlling patents." The concluding words of this manuscript show it to have been part of an appeal to the Bench: "It is to defeat this ungenerous, this unjust attack on my rights and the arts of our country, that your honor is to decide in equity."

Owned by The New York Historical Society.

- 188 Original Contract with Specifications between Robert Fulton and James Bennett, dated New York, May 12, 1809, for the construction of the Boiler of Fulton's Steamboat the "Car of Neptune."

Owned by The New York Historical Society.

- 189 Original letter to Frederick DePeyster, Esq. (Second-Vice-President of The New York Historical Society), from Richard Varick DeWitt, who prepared the Watercolor picture of the North River or Clermont, and the vignette of the Clermont, for presentation to The New York Historical Society. Dated Albany, October 28, 1858. This letter authenticates and explains Mr. DeWitt's ability to make the drawing.

Owned by The New York Historical Society.

- 190 Drawing by Richard Varick DeWitt of Robert Fulton's Fulton the First, with deck and working plans vignetted in margin.

"At the commencement of the year 1814 Mr. Fulton submitted to the coast and harbour defense committee, the model and plans for this vessel of war. Without delay a memorial was addressed by this Committee to Congress praying that measures be adopted for executing Mr. Fulton's plan." The frigate was launched October 29, 1814—with music and gaiety in the presence of great crowds. But Fulton's soul may be said to have gone out in this supreme achievement. He died in February, 1815; it was on the 4th of the following July that his steam frigate made her first passage to the ocean and back.

Owned by The New York Historical Society.

- 191 Photograph of letter from Robert Fulton to Benjamin West, dated New York, May 9, 1810.

In this letter Fulton states to his friend that all doubts are removed as to the power of his invention.

Owned by The New York Historical Society.

- 192 Photograph of Fulton's letter to Mamy West, dated Dover, Oct. 16, 1805 (with a graphic relation of his successful torpedo experiments in Walmer Roads).

Loaned by Samuel V. Hoffman.

- 193 Statement by DeLacey (Broadside) concerning his exploration of Southern waters. Dated July, 1813.

Owned by The New York Historical Society.

- 194 Three engravings (2 by Leney) from West's Portraits of Fulton.

Owned by The New York Historical Society.

- 195 Autograph letter—dated May 11, 1803 (probably from Barlow to Fulton), concerning the writer's explanation to Lord Stanhope of Fulton's idea of applying steam to the movements of boats, etc.

Loaned by Hon. Peter T. Barlow.

- 196 Autograph letter from Thomas Jefferson to Joel Barlow.

Dated: Washington, Jan. 19, 1804. Cordially endorsing Jefferson's Secretary—Mr. Harvie—and praying Mr. Barlow to return (from Paris) and write the history of federalism, "which is in its last agonies." . . . "A more instructive lesson can never be offered to our country."

Loaned by Hon. Peter T. Barlow.

- 197 Copy of Robert Fulton's letter to Geo. W. Erving, Consul and Agent for the United States in London dated Paris, March 4, 1804: concerning the shipping to New York of a steam engine which the British Government had already permitted to go to

other countries; with postscript by Joel Barlow in guarantee of the necessary funds for the transaction.

Loaned by Hon. Peter T. Barlow.

- 198 Autograph letter to Fulton, dated Washington, March 30, 1806, on a suggested matrimonial alliance in England. Its eloquent, intimate wording points to Joel Barlow as the writer.

Loaned by Hon. Peter T. Barlow.

- 199 Autograph letter from Joel Barlow to Nathaniel Cutting (Charleston, S. C.) dated Philadelphia, Dec. 15, 1806. Concerning Mr. Barlow's anxiety about Fulton's journey in the then very inclement weather.

Loaned by Hon. Peter T. Barlow.

- 200 Autograph letter from Joel Barlow to his wife concerning different residences in Washington (President Washington's among them) under Mr. Barlow's consideration for their own establishment in that city.

Dated March 17, 1807.

Loaned by Hon. Peter T. Barlow.

- 201 Autograph letter from Thomas Jefferson to Joel Barlow. Dated: Washington, Dec. 25, 1808. Concerning the utility of full and regular reports on American manufactures, etc.

Loaned by Hon. Peter T. Barlow.

- 202 Autograph letter from James Madison to Joel Barlow, dated Williamsburg, Va., Oct. 6, 1809.

Thanking Mr. Barlow for forwarding his reply to M. Gregoire and referring to Mr. Barlow's essay on the establishing of a National University.

Loaned by Hon. Peter T. Barlow.

- 203 Autograph letter from James Madison to Joel Barlow. Dated Williamsburg, Va., Oct. 21, 1809. Commending Mr. Barlow's efforts for National improvement.

Loaned by Hon. Peter T. Barlow.

- 204 Autograph letter from Robert Fulton to Joel Barlow, referring to English reviews of *The Columbiad*. Dated July 1, 1810.
Loaned by Hon. Peter T. Barlow.
- 205 Autograph letter from Thomas Jefferson to Joel Barlow. Dated: Monticello, March 11, 1811. Praying Mr. Barlow's care of an enclosed letter with remittance of £200 sterling to Gen. Kosciuzko—"about the amount" (the letter states) "that he annually receives from this country."
Loaned by Hon. Peter T. Barlow, New York City.
- 206 Autograph letter to Robert Fulton (unsigned, but obviously from Mr. Barlow) dated: Washington, July 17, 1811; with farther instructions concerning Conrad's account, and a mention of the Review of Robert Smith's Address of which it says: "*It must not be known who wrote it. Mind that.*"
Loaned by Hon. Peter T. Barlow.
- 207 Autograph letter from Robert Fulton to Joel Barlow—dated New York, June 28, 1811: concerning a certified copy of Fulton's transfer of one-half his United States patents to Robert R. Livingston, and Mr. Barlow's deposition in the Thornton case.
Loaned by Hon. Peter T. Barlow.
- 208 Autograph letter (probably from Joel Barlow) to Robert Fulton. Dated Washington, July 20, 1811. Recommending the ability and earnestness of Latrobe. Also concerning account for *Columbiad* plates.
Loaned by Hon. Peter T. Barlow.
- 209 Autograph letter from Joel Barlow to Robert Fulton, dated Washington, July, 28, 1811: concerning Thornton's deposition, the early editions of *The Columbiad*, etc.
Loaned by Hon. Peter T. Barlow.
- 210 Original Mss. Order to C. A. Conrad & Co. (Philadelphia), to deliver to Robert Fulton or his order, all remaining copies of *The Columbiad*, all material for that work, etc.

Dated Washington, 30 July, 1811 and signed by Joel Barlow.
Loaned by Hon. Peter T. Barlow.

- 211 Autograph letter from Mr. Barlow to Mr. Fulton, dated "off the Capes of Virginia"—5 Aug. 1811.

Loaned by Hon. Peter T. Barlow.

- 212 Autograph letter from Joel Barlow to Robert Fulton, dated: "Frigate Constitution—14 Aug. (1811)"—advising the Fultons of their health and safety.

Loaned by Hon. Peter T. Barlow.

- 213 Autograph letter from Joel Barlow to Robert Fulton.

Dated: Hampton Roads, Aug. 2, 1811.

Containing instructions as to final settlement with the printers of The Columbiad, and speaking of the cordial friendship for Fulton entertained by "Mr. and Mrs. Madison, Mr. Gallatin, Mr. Hamilton and Mr. Monroe."

Loaned by Hon. Peter T. Barlow.

- 214 Autograph letter from Robert Fulton to the Messrs. Conrad—dated Sept. 16, 1811.

Concerning their account with Mr. Barlow and giving details of same.

Loaned by Hon. Peter T. Barlow.

- 215 Autograph letter from Mrs. Joel Barlow to Cadwallader D. Col- den, with sketch of Fulton's life for publication.

Loaned by Hon. Peter T. Barlow.

- 216 Autograph letter from Robert Fulton to Joel Barlow—dated Apr. 19, 1812:

Identifying missing letters, giving an account of Fulton's trans- actions with Conrad, and speaking of the intense interest attend- ing Mr. Barlow's newspaper communications from abroad.

Loaned by Hon. Peter T. Barlow.

- 217 Humorous "Dialogue between wife and Toot" (Fulton) addressed "A Madame Barlow, Rue de Vangirard No. 950, a Paris" with Calais Postmark and Memoranda.
Loaned by Hon. Peter T. Barlow.
- 218 Memoranda of "534 Copies" (probably of The Columbiad) found in the possession of Mr. Conrad.
Dated: Philadelphia, Feb. 27, 1812.
Loaned by Hon. Peter T. Barlow.
- 219 Newspaper Clipping—Time Schedule—of New York Steamboats Rariton, Phoenix and North River.
Loaned by Hon. Peter T. Barlow.
- 220 Original (mss.) letter (unsigned) from Robert Fulton to Joel Barlow, concerning depositions in the Thornton case to "come up the 15th of July."
Loaned by Hon. Peter T. Barlow.
- 221 "Napoleon's passage at Warsaw"—a graphic description by Joel Barlow of Napoleon's flying trip incognito to meet the Duke at Wilma, of his arrival at Warsaw—and of his discourse there before the Council of State, Count Potowsky, and the French Ambassador.
Loaned by Hon. Peter T. Barlow.
- 222 Original Mss. Notes for Dr. Thornton's Deposition concerning Steamboats constructed by Robert Fulton, and the claims of Mr. Stevens.
Loaned by Hon. Peter T. Barlow.
- 223 Memoranda (original Mss.) by Samuel G. Olmstead—Dated New York, Sept. 21st, 1860—giving a list of original likenesses of Joel Barlow by distinguished painters and modellers.
Loaned by Hon. Peter T. Barlow.

- 224 Group of original Robert Fulton Manuscripts as follows: Essay
to
237 on Steamboats reviewing the injustice of others' claims to Ful-
ton's inventions.

Original Mss. Notes by Fulton—defining the irresponsibility of Messrs. Livingston and Fulton for defects in steamboats copied after theirs and built “in contempt of the patent laws of the United States, . . . and of a law passed by this State granting to Livingston and Fulton certain privileges to enable them to . . . establish these useful boats on the Hudson River.” Mss. letter (1) dated Aug. 19, 1811—to Robert R. Livingston concerning the defense of their rights in the coming struggle at Albany and outlining the points to be adhered to in the defense; (2) March 31, 1812, to Robert R. Livingston, Clermont, telling how absorbingly the inventor had been occupied with “the arrangements, combinations and construction of our boats from the experiment of 1802 to the (then) present day”; (3) July 7, 1812, to R. R. Livingston concerning certain proposals made and bills due. (4) July 13, 1812, concerning copies of Count Rumford’s treatise on “Light” and relating a conversation with Aaron Burr; (5) July 15, 1812, to Aaron Burr concerning the attack on Fulton’s right to the invention of the Steamboat; (6) July 23, 1812, narrating the first triumphant passage of Fulton’s Steam ferry-boat against wind and tide; (7) Oct. 6, 1812, to R. R. Livingston, referring to statement of private accounts, and to contract with Mr. Cutting. (8) Sept. 14, 1813, a carefully detailed defense of the Fulton patent; (9) Oct. 2, 1813, to the Messrs. Livingston concerning disbursements for the construction of Boats which were their joint private property. (10) Original drawing by Fulton of plan of Steamboat boiler; (11) Original drawing also by Fulton, of plan of Steamboat.

Loaned by Allen C. Thomas, Haverford College, Haverford, Pa.

- 238 Original Mss. Memorandum of Clermont Steamboat Partnership Agreement—between Robert R. Livingston and Robert Fulton. Dated Oct. 10, 1802.

Loaned by John Henry Livingston, of Clermont.

- 239 Autograph letter from Robert Fulton to Messrs. Edward P. and Robert L. Livingston announcing the retirement of the Fulton and the readiness of the Richmond for active service in her place.
Dated June the 30th, 1814.
Loaned by John Henry Livingston, of Clermont.
- 240 Petition (print of the time) issued by R. R. Livingston and Robert Fulton, June 18, 1810, for protection of their Steamboat rights and privileges.
An Act "For granting to Robert R. Livingston and Robert Fulton the sole right and advantage of making and employing for a limited time the Steamboat or Boats by them invented."
Loaned by John Henry Livingston, of Clermont.
- 241 Original letter from A. N. Hoffman of New York to Edward P. Livingston, Esq. of Clermont, announcing the death of Robert Fulton on the morning of Thursday, Feb. 23, 1815.
Loaned by John Henry Livingston, of Clermont.
- 242 Autograph letter from Robert Fulton to John Brekenbrough.
Dated New York, Oct. 13th, 1814. Concerning purchase of the Richmond, Steam Navigation on the James River, etc.
Loaned by Mrs. Robert Fulton Blight.
- 243 Autograph letter dated Albany, June 12, 1857, from Paul Sabbaton, Fulton's later period Engine builder and Engineer, to J. Franklin Reigart.
This letter is a tender tribute from one who intimately knew the inestimable services rendered by Fulton, and his character—that combined "all the traits of a man with the gentleness of a child."
Loaned by Mrs. Robert Fulton Blight.
- 244 Autograph letter dated New York, April 18, 1814, from Robert Fulton to John R. Livingston. "No liberality is returned for liberality given," wrote Fulton. "Such close management demands a

close and well-guarded bargain." The management of the Rariton's finances, is the subject under discussion.

Loaned by Mrs. Hermann H. Cammann.

- 245 Autograph letter dated New York, May 2, 1814, from Robert Fulton to R. Lewis (in reply to a communication from Col. Hazelwood Farish, Secretary of the Potomack Steamboat Company); explaining to the subscribers the great increase of expenses in building the Steam Frigate—Fulton the First and assuring them of her satisfying soundness, and her promise of abundant returns.

Loaned by Mrs. Hermann H. Cammann.

- 246 Autograph letter from Robert Fulton to Edward P. Livingston, under date of New York, June 25, 1814;—this letter is a plea that each party to the Livingston-Fulton partnership recognize and pursue his own duties in and toward the business. "Again," (writes Fulton) "I invite you to give a plan of what part or portion of the business you will superintend and execute with that constancy and perseverance with which I attend to our concerns; I do not ask you and Robert to do more than I do, but I have a right to ask you to do as much."

Loaned by Mrs. Hermann H. Cammann.

- 247 Autograph letter from Robert Fulton to Joseph Bringhurst, Postmaster at Wilmington, Del., on his (Fulton's) cession to Mr. Stevens of "the unrivalled run on the Delaware and Chesapeake waters." Dated Washington, Jan. 23, 1811.

Loaned by E. Bringhurst, Jr.

- 248 Autograph letter from Robert Fulton to Joseph Bringhurst, dated New York, Aug. 27, 1813—concerning the cession to Mr. Stevens,—the verification of Fulton's predictions about Coxe, and the inventor's ambitious aim to perfect the plans then under process—which would enable "America to say that she has the most perfect water communication on this globe"; also first mentioning his serious condition of health as induced by constant,

arduous application to his work;—here he says: “Hitherto I have not sought money for monies sake, but to enable me to be useful to my country and mankind.”

Loaned by E. Bringham, Jr.

- 249 Original Mss. of Disbursements (autograph of Robert Fulton) for Steamboat expenses (building and incidentals) from June 25, 1808 to June 28, 1809.

Loaned by Joseph B. Learmont, Montreal.

- 250 Copy of autograph letter from Robert Fulton to Thomas Jefferson—(date: New York, March 28th 1810)—containing “sketch of a self-acting Béhier Hydraulic” with explanation of same. In his “thoughts of the probable effects of this invention”—Fulton wrote: “Thus French Torpedo boats might destroy the English blockading fleet before Boulogne and take command of the British Channel. Should it be proved that Torpedo boats can attack ships of war with success It will be seen that a fleet going to sea being well provided with good row-boats and Torpedoes, could if it came into action with another fleet put out its torpedo boats harpoon and blow up the enemy even while engaged; had the french been thus provided it is probable that Lord Nelson’s fleet would have been destroyed at Trafalgar.” . . . The use of Torpedo Boats “on the narrow seas of Europe” . . . “must result in a war to the total extermination of trade or a convention for a perfect liberty of the seas.” . . . “hence the success is of such immense importance to these states to civilization and to mankind that everything should be done to clearly demonstrate its powers.”

The original letter is owned by J. Pierpont Morgan, by whose courtesy this copy is shown.

- 251 Autograph letter (dated New York, Feb. 22, 1814), from Robert Fulton to Isaac Cox Barnet, Esq. (Paris) regarding certain transactions in Illinois lands—between Mr. Seth Hunt and John Francis Meyneaud “now Baron Meyneaud de Pancement, —and his wife, who is heiress to Philipe Renault, deceased”—,

and Mr. Fulton's offer (representing also others interested in the acquisition) through Mr. Barnet, and under certain conditions, to pay the sum of 80,000 francs for the lands in question.

Loaned by Mrs. Elizabeth B. French.

- 252 Copy of a letter dated Paris, Aug. 4, 1814, addressed to Robert Fulton, by Isaac Cox Barnet (Paris)—concerning the latter's efforts for Major Hunt, Mr. Fulton and others interested, to bring about desired transactions in Illinois lands, between themselves and Baron Meyneaud de Pancement.

Loaned by Mrs. Elizabeth B. French.

- 253 True Copy (verified by Fulton) of a letter addressed to Robert Fulton by John C. Barnet—and dated Paris, Sept. 10, 1814; enclosing copies of two interesting communications concerning the transfer of Illinois lands pertaining to M. le Baron Meyneaud de Pancement and his wife, heiress to Philipe Renaut. The first—from the Baron—(dated Gennerard, August 20, 1814) assures Mr. Barnet that both the Baron and his son-in-law Count de Tournon—prefect of Rome, had strenuously occupied themselves preparing the desired information concerning the lands above mentioned; that various proposals for their sale had been made to the Baron, and yet that as "the times are now more favorable than ever to go to Louisiana, if these gentlemen will make a fair offer, if it suits me, I will again treat with them," etc., etc.

Mr. Barnet (in his reply) refutes the Baron's assertion as to the favorableness of the times in Louisiana, referring to the blockade established by England in American ports as still unbroken and unlikely to be for some time, and to the friendship of France to Louisianians whose interests were so identified with the fortunes of Louis XVI.; also begging the Baron's immediate attention to the matter—so as speedy an answer as the condition of the times would permit—might be conveyed to the waiting parties in America.

Loaned by Mrs. Elizabeth B. French.

- 254 Autograph letter (signed) from Robert Fulton to Joshua Gilpin, dated Paris, November the 20th, 1798. Concerning Canal Con-

struction and other of Fulton's matters in which the French Government was interested.

Loaned by Rev. Wm. Bernard Gilpin, Hoboken, N. J.

- 255 Autograph letter (signed) from Robert Fulton to Joshua Gilpin dated Paris, September 17, 1798. Acknowledging receipt of Mr. Gilpin's letters of introduction to eminent persons in France, and speaking of the adoption of Fulton's plan for the Canal from Paris to Dieppe and Cambrai, this triumph being cause for the inventor's decision to continue in France until close of the following Spring.

Loaned by Rev. Wm. Bernard Gilpin, Hoboken, N. J.

- 256 Autograph letter written June 24, 1814 by Robert Fulton to Thomas Addis Emmet—concerning the extent of Chancellor Livingston's claims on Fulton's inventions.

Loaned by John D. Crimmins.

- 257 Photograph of letter written by Robert Fulton to Citoyen Directeur Baras.

Owned by The New York Historical Society.

- 258 Photographic reproduction of autograph letter from Robert Fulton to Ch. Paul Svenine, concerning the Russian Government's proposed establishment of a Steamboat to run from St. Petersburg to Cronstadt,—and duration of rights of same.

Dated New York, July 26, 1812.

Loaned by Samuel V. Hoffman.

- 259 Autograph Letter from Robert Fulton to John Hoge, Dated London, Oct. 20, 1805. (Which date was just four days after Fulton's triumphant Torpedo test in Walmer Roads.)

The gentleman herein addressed appears to be the "Mr. Hogg" to whom Fulton gave rights of Attorney in 1793, instructing him then (and in 1794) to divide his Pennsylvania properties among the members of his family in suchwise "as to best meet their individual merits and necessities."

Loaned by the Chicago Historical Society.

260 Autograph letter from Robert Fulton to David Morris, dated London, May 21st, 1793.

In Fulton's brightest and most intimate vein. He discusses family matters—instructs in the transference of his real estate properties; dwells upon his anxiety concerning the Indian perils, their home, and glows with triumph at the growing fame of his friend, Benjamin West. This letter was written during the "Birmingham Period" when Fulton was so happily devoted to Mechanical study in the "great workshop."

Loaned by the Chicago Historical Society.

261 Autograph letter from Robert Fulton to his brother-in-law, David Morris, dated London, April 1, 1794. Containing further instructions in regard to the division of his property and graphically picturing the War spirit of the time in Europe. A paragraph relating to the independent position of America concludes with: "The Art of Peace should be the study of every young American."

Loaned by The Chicago Historical Society.

262 Autograph letter from Robert Fulton to his mother, date of London, Nov. 21, 1790. Amusedly contradicting absurd rumors in the American newspapers that he was receiving a large annuity for painting the Royal family.

Loaned by Louis S. Clarke, Haverford, Pa.

263 Autograph Letter from Robert Fulton to his mother (dated Paris, July 2nd, 1799).

Loaned by Louis S. Clarke.

264 Autograph letter from Robert Fulton to his mother—dated London, April 14, 1789—speaking enthusiastically of the admission of his pictures to the Royal Academy, making solicitous inquiries as to her comfort and happiness, etc.

Loaned by Mrs. Frank Semple, Sewickley, Pa.

265 Autograph letter from Robert Fulton to his mother—dated London, July 31, 1789. Assuring her of his constant affection, and

the "hope that walks ever by my side" and giving her as an address whence his letters will be safely received, the following:

"Mr. Robert Fulton, Painter, To the Care of Mr. Henry Fulton, No. 9 Watling Street, London."

Loaned by Mrs. Frank Semple, Sewickley, Pa.

- 266 Autograph letter from Robert Fulton to his mother.

Dated London, June 14, 1790. With charming tribute to his mother in her garden; (Mrs. Fulton was a great lover of floriculture) grateful acceptance of her consent to his continued studies abroad; the marriage of "Polly," and the desired distribution of his (Fulton's) lots for the family's benefit.

Loaned by Mrs. Frank Semple, Sewickley, Pa.

- 267 Original Mortgage—dated the 28th of November, 1766—on the Fulton Farm, Little Britain, Lancaster Co., Pennsylvania.

Bearing the signatures of Fulton's parents—Robert and Mary Fulton. Dated the year following the inventor's birth.

Loaned by Joseph Swift, Fulton House, Lancaster Co., Pa.

- 268 Copy of Map of the Fulton Farm. Certified the 14th of September, 1775.

Loaned by Joseph Swift.

- 269 Manuscript Map of the Fulton Farm surveyed (in parcels as indicated) in pursuance of Four Warrants—viz: the 1st granted to William Fulton, dated July 21st, 1734—(re-surveyed to James Gillespie by warrant 12th Nov. 1742). The 2nd by Warrant dated March 19, 1743. The 3rd by Warrant dated July 20, 1748, and the 4th by Warrant dated 1749. The Farm contained in all some 546½ acres. Signed Geo. Churchman—in the Secretary's Office, the 20th of May, 1774. Certified Oct. 14, 1774—by Robert Dill—for John Lukens, Esq.

Loaned by Joseph Swift.

- 270 Autograph letter from Robert Fulton to David Morris—dated London, Sept. 12, 1796—with thoughtful messages for family and friends.

271 Autograph letter from Robert Fulton to his mother—dated Devonshire, Jan. 20, 1792,—reviewing his tour in France.
Loaned by Mrs. Frank Semple.

271A Autograph letter—dated Paris, April 15th 1800, from Robert Fulton to his mother—instructing her how to trace a gift of thirty-six guineas sent from Paris July 3rd 1799; Fulton here refers to “business which is very important to me” as still detaining him from home—and assures his mother affectionately of his “excellent health.”

Loaned by Mrs. George Montgomery, Frankford Arsenal, Philadelphia, Pa.

272 Mss. Indenture from John Hoge, Elizabeth Hoge and William Hoge to Robert Fulton—for property in Washington, Pa., dated September 18, 1786.

Loaned by Mrs. Frank Semple, Sewickley, Pa.

273 Autograph letter to Fulton’s mother from George Sanderson—dated Baltimore, 25th July, 1788. The writer (who had just returned from London) warmly narrates Fulton’s rapid progress “in the liberal Art of Painting,” and refers to the many influential friends “his personal accomplishments and prudent behaviour” had already won him.

Loaned by Mrs. George Montgomery, Frankford Arsenal, Philadelphia, Pa.

274 Autograph letter from Robert Fulton to his brother-in-law, David Morris, (Washington Town, Pa.)

Dated London, October 25, 1805: concerning various remittances, and praying that his younger relatives industriously improve all opportunities for education.

Loaned by Mrs. Frank Semple, Sewickley, Pa.

275 Souvenir Program (Sept. 1909). Commemoration of Nativity of Robert Fulton—at Fulton House—Fulton (in Fulton’s time, Little Britain,) Pennsylvania.

With Sketch of Fulton entitled: "That Son of a Pennsylvania Farmer."

Loaned by Mrs. Arthur T. Sutcliffe.

- 276 Collection of Original Water Color Plans and Drawings of Mechanism in parts and in practice—by Robert Fulton. (4 portfolios.)

Belonging to the New Jersey Historical Society.

- 277 Water Color Miniature of David Morris—Attributed to Robert Fulton.

Loaned by Mrs. George Montgomery—Frankford Arsenal, Philadelphia, Pa.

- 278 Miniature Medallion of Alexander Blair—Attributed to Robert Fulton.

Loaned by Mrs. Geo. Montgomery, Frankford Arsenal, Pennsylvania.

- 279 Engraving of Robert Fulton's Miniature Portrait of Miss Clementina Ross—elder sister of Margaret Ross.

Painted in Philadelphia, 1787.

The original Miniature is now in the Philadelphia Academy of Fine Arts.

Loaned by Alice Crary Sutcliffe.

- 280 Engravings of Robert Fulton's Miniature Portraits of Mr. and Mrs. John W. Kittera—Originals owned by the Pennsylvania Historical Society.

Loaned by Mrs. Arthur T. Sutcliffe.

- 281 Copy of Robert Fulton's publication, "Torpedo War and Submarine Explosions." With Plates. This book contains Fulton's famous words: "The Liberty of the Seas will be the Happiness of the Earth."

Printed by William Elliot, New York, 1810.

Loaned by Mrs. Hermann H. Cammann, New York City.

- 282 Concluding Address of Robert Fulton's Lectures on the Mechanism, Practice and Effects of Torpedoes.

Delivered at Washington, February 17, 1810.

Owned by The New York Historical Society.

- 283 "Canaux"—by Robert Fulton.

The original French publication (Paris, Dupain-Triel, Libraire, Cloiture Notre Dame, N° 1—An 7). This is one of the remarkable volumes that attracted the attention of the French Government—to "Robert Fulton, Ingénieur Americain."

Loaned by Mrs. Arthur T. Sutcliffe.

- 284 Quarto Volume in full crushed brown levant, beautifully tooled and inlaid; and with white moire doublure enriched with Coat of Arms. Illustrated with fine steel engravings, and with original drawings by Fulton.

This remarkable little volume contains autograph manuscript by Robert Fulton of the history of Steamboat Invention, under the caption: "Notes on Steamboats—Where first successful—their extension from Quebeck to St. Mary's and from the Red River to Mexico—National importance—Stevens and Evanses pretentions and blunders." (dated) Feb'y. 1813.

On page 6 Fulton wrote: "The first successful Steamboat which was ever put into actual and permanent operation and which removed from the public mind all doubt on the practicability of Steamboats was built and navigated on Hudson River in the State of New York in the autumn of 1807."

Among the illustrations is a steel engraving of Chappel's Portrait of Fulton; a humorous black and white sketch of himself, by Fulton; an engraving (by Hollyer) of the Clermont as she was when she first passed up the Hudson, and a pencil sketch by Fulton of a hackney coach in Holland with passenger and driver.

Loaned by J. Pierpont Morgan.

- 285 North River Steamboat Receipt Book from the dates May 12, 1810 to Nov. 15, 1812 (inclusive). The receipts are signed by Robert Fulton and Robert L. Livingston.

Loaned by John Henry Livingston.

286 Captain Samuel Wiswall's Original receipt-book noting proceeds of Fulton's Steamboat Paragon from Sept. 1812 to Dec. 1814 (inclusive). With Autograph Signatures of Robert Fulton, Edward P. Livingston, Mary Livingston, Robert G. Livingston, Robert L. Livingston, Harriet (Livingston) Fulton, and A. N. Hoffman.

Loaned by Mrs. E. Harrison Sanford, Rutland, Vermont.

287 The original "North River Receipt Book" kept by the commanding officer Capt. Samuel Wiswall and his assistant G. H. Paddock—from Sept. 20, 1809 to May 5, 1810—inclusive; printed "Rules and Regulations for Passengers" appear inside the cover.

Loaned by John Henry Livingston of Clermont.

288 Fulton Memorial Medal (silver) struck by the Fulton National Bank of Lancaster, Pa., in commemoration of the Fulton Centennial celebrated in that city, September, 1909.

Loaned by Mrs. Arthur T. Sutcliffe.

289 Robert Fulton's "Treatise on the Improvement of Canal Navigation" etc., etc.—with valuable historic data on the same; a Chapter (II.) on "the Importance of Canal Navigations" and Explanations of subjoined diagrams and Plates.

Published by I. and J. Taylor at the Architectural Library. High Holborn, London—1796.

Loaned by Mrs. Hermann H. Cammann, New York City.

290 Bronze token—commemorative of Hudson-Fulton Celebration.

Loaned by Mr. Hoffman.

291 First Proof (Obverse side)

City of Newburgh Medal. Designed for the Hudson-Fulton Celebration of September and October 1909—by

Henry K. Bush-Brown.

Executed by Whitehead and Hoag.

Newburgh—represented by a draped female figure enthroned among the Mountains, the keys of the city in one extended hand

—the broad river at her feet—gives royal welcome to the civic and ceremonial fleet passing her on its way up the Hudson—the Clermont and Half Moon in advance. The motif of the composition is “Welcome to Newburgh.”

- 292 Original plaster casts of the Fulton Medal for the Hudson-Fulton Celebration of September and October, 1909. Inscribed “Robert Fulton 1809–1909” around a relieve portrait of the inventor.

Loaned by Thomas L. Elder, New York City.

- 293 Silver Souvenir Medallion Badge—designed for the Hudson-Fulton Celebration.

Loaned by S. V. Hoffman.

- 294 Gold and Silver tokens from the Thomas Elder casts for the Hudson-Fulton Celebration of 1909. Designed by Frank C. Higgins; modelled by J. E. Roiné—member French National Academy of Fine Arts.

Loaned by Samuel V. Hoffman.

- 295 Reverse side (cast) of Fulton Medal showing “The Clermont” under full way up the Hudson; engraved: “New York to Albany—The Clermont—One Trip.”

Loaned by Thomas L. Elder, New York City.

- 296 First Proof (Reverse side)—City of Newburgh, Hudson-Fulton Celebration Medal.

With Medallion Profiles of the Discoverer and the Inventor.

H. K. Bush-Brown, Designer—Executed by Whitehead and Hoag.

Loaned by the Designer.

- 297 Official Silver Medal (Struck by the American Numismatic Society) for the Hudson-Fulton Celebration 1609–1909.

(From Designs by Emil Fuchs.)

In his study of the costumes and “inboard” of the “Halve Maene” (the old Dutch words for Half Moon) shown on the Hudson side of the medal, Mr. Fuchs travelled to The Hague to

consult with (Retired) Vice-Admiral Yonhkeer Roell of the Royal Dutch Navy. At the moment pictured, all on board the vessel are absorbedly watching the sounding-lead. As a background to the ship the majestic scenery of the Hudson is delicately suggested. The legends: "Discovery of the Hudson River by Henry Hudson, A. D. MDCIX"—"The American Numismatic Society"—and "The Hudson-Fulton Celebration Commission"—which frames this side—are divided by Society and Commission Seals and drawings of nautical Instruments of the time.

On the Fulton side of the Medal a classic group of three draped female figures is seated in a temple porch whose two outer columns divide the upper part of the medal. The central and commanding figure "Steam Navigation" holds a model of Fulton's Clermont. At her right—"Commerce"—her hand upon an anchor—regards her intently, while "History"—pen in hand and parchment waiting—turns toward her from the left. Below this group is inscribed: "First use of Steam Navigation on the Hudson River—1807." The upper part is framed with a laurel wreath opening between the columns to admit a medallion of the inventor, adapted from the Portrait by Benjamin West; beneath the medallion is engraved: "Robert Fulton 1765—1815." At the right and left appear respectively a view of New York from the Hudson River (from a rare sketch of 1806, owned by the Society of Iconophiles) and a view of the present New York water line.

Emil Fuchs (London and New York), the painter-sculptor who designed this important example of Medallic Art, designed (by royal command) the "Queen Victoria," "Prince and Princess of Wales," "Princess Henry of Battenberg," "Official Coronation," "Science, Art and Music" and "South African War" Medals; also those of various notable foreign commissions, and several of the leading medals for the Hispanic and American Numismatic Society.

Owned by The New York Historical Society.

298 Bronze tokens "in commemoration of the Hudson-Fulton Celebration" 1609—1909 and 1807—1909.

Loaned by Mr. Samuel V. Hoffman.

299 "Fulton's Triumph."

Water-color (29 x 37 $\frac{3}{4}$ inches)—showing the departure of the Clermont on her initial trip up the Hudson to Albany, a strong north wind blowing smoke and sparks back among the watching men and women crowding the pier close by the old Prison, and gaily fluttering the Clermont's flag and pennant. "Fulton stands at the helm of the Clermont gratefully acknowledging the plaudits of the spectators—as the Steamboat moves proudly off"; row boats and water craft filled with eager friends and spectators crowd about the Clermont; the white sails, and the brilliant tones of flags and costumes (strictly of the time) add much to the scene.

Painted by Henry A. Ogden.

Loaned by the Artist. Illustrator of "Uniforms of the United States from 1774 to 1889."

Authorized by the Secretary of War and prepared under the Supervision of the Quartermaster-General, by Lieut.-Col. M. I. Ludington.

300 Plate of the Launching of Robert Fulton's Fulton the First—Oct. 29, 1814.

Loaned by Henry C. Swords.

301 Model of the latest Hudson River Day line Steamboat—Hendrick Hudson.

Loaned by Hudson River Day Line.

302 Statue of Robert Fulton—from the Brooklyn Terminus of the Fulton Ferry.

Loaned by the Fulton Ferry Company.

303 Dinner Bell used on the Clermont.

Loaned by Eben E. Olcott.

304 Model of the reconstructed Clermont.

By H. E. Boucher.

Loaned by The Hudson River Day Line.

- 305 Plate by C. G. Crehen—from a Portrait of Robert Fulton by Benjamin West,—with view of the Clermont and facsimile of Fulton's Autograph.
Printed by Nagel and Weingartner, New York, 1850.
Owned by The New York Historical Society.
- 306 Plans of the new Clermont.
- Loaned by Eben E. Olcott.
- 307 "The answer of Mr. Sullivan to the Letter and Misstatements of the Hon. Cadwallader D. Colden, as the advocate of the monopoly of Steam and Fire in navigating the Rivers, Coasts and Lakes of New York."
By John L. Sullivan.
Second Edition. Troy, 1823.
Owned by The New York Historical Society.
- 308 Explanation by John L. Sullivan of the nature of certain Grants to him for the use of Steamboats on Connecticut River, and the nature of his claims to admission into the State of New York, of his patented improvements in Steamboats. In a letter addressed to (Wm. Coleman) the Editor of the New York Evening Post. New York, 1818.
Owned by The New York Historical Society.
- 309 "Ferry Leases now in force (Fulton Ferry, etc.)."
Printed under the Direction of the Comptroller—as ordered by Resolution of The Board of Assistant Aldermen, October 22, 1832.
New York, 1832.
Owned by The New York Historical Society.
- 310 "A Brief Exposition of the Views of John L. Sullivan, Esq., who holds in virtue of an Act of the Legislature of Massachusetts, an exclusive right to the use of steam tow boats, on part of the water of that State for forty-two years, viz: From 1814 to

1856!!! in opposition to similar rights granted by the State of New York to Messrs. Livingston and Fulton."

Cadwallader D. Colden. New York, 1822.

Owned by The New York Historical Society.

- 311 A Reply to Cadwallader D. Colden's Vindication of the Steamboat monopoly, with appendix containing copies of the most important Documents referred to in the argument.

By William A. Duer. Albany, 1819.

Owned by The New York Historical Society.

- 312 "A History of the Steamboat Case" lately discussed by Connell before the Legislature of New Jersey. (Comprised in a Letter to a gentleman at Washington.)

Trenton, 1815.

Owned by The New York Historical Society.

- 313 The Right of a State to grant exclusive privileges in roads, bridges, canals, navigable waters, etc., vindicated; by a candid examination of the Grant from the State of New York to, and contract with Robert R. Livingston and Robert Fulton—for the exclusive navigation of vessels by steam or fire, for a limited time, on the waters of said State, and within the jurisdiction thereof (with supplemental Remarks).

New York, 1811.

Owned by The New York Historical Society.

- 314 James Renwick's "Life of Robert Fulton" (Vol. X. of) "The Library of American Biography" conducted by Jared Sparks.

Boston, 1838.

Owned by The New York Historical Society.

- 315 The Law Papers and Documents relating to the management of the Old, or Fulton Ferry.

Brooklyn, 1822.

Owned by The New York Historical Society.

316 **Fulton Ferry.**

A Statement of Facts, with Remarks, etc.—in answer to a Pamphlet published at Brooklyn in relation to the Steamboat Ferry.

Brooklyn, 1822.

Owned by The New York Historical Society.

317 **Report of the Practicability of navigating with Steamboats on the Southern Waters of the United States from the Chesapeake to the River St. Mary's, forming part of a line of Steamboat communications, now establishing, from the northern extremity of Lake Champlain to East-Florida—a distance of 1500 miles.**

Robert Fulton. New York, Dec. 1813.

Owned by The New York Historical Society.

318 **Life of Robert Fulton issued by the Fulton Trust Company of New York.**

New York, 1906.

Owned by The New York Historical Society.

319 **Report of the Committee of Claims to whom was referred the petition of the heirs of Robert Fulton. 28th Congress, 1st Session, Rep. No. 127, Ho. of Rep. (To accompany bill H. R. No. 120.)**

Washington, 1844.

Owned by The New York Historical Society.

320 **"De la Machine Infernale Maritime, ou de la Tactique Offensive et Défensive de la Torpille. Traduit de l'Anglais, par M. E. Nunez de Taboada." 5 original plates.**

Robert Fulton.

Paris, 1812.

Owned by The New York Historical Society.

321 **The Life of Robert Fulton and a History of Steam Navigation—Illustrated.**

Thomas W. Knox.

Owned by The New York Historical Society.

- 322 "Report on the Practicability of Navigating with Steamboats,"
etc., by Robert Hubert.
Same. Second Edition.
Philadelphia, 1828.
Owned by The New York Historical Society.
- 323 "Recherches sur les Moyens de Perfectionner les Canaux de
navigation, et sur les nombreux avantages de petits canaux."
Robert Fulton.
Engraved plates. Paris, 1799.
Owned by The New York Historical Society.
- 324 The Life of Robert Fulton by J. Franklin Reigart.
Philadelphia, 1856.
Illustrated with copies of Original Drawings by Mr. Fulton,
and numerous Plates.
Owned by the New York Historical Society.
- 325 Volume III of the National Portrait Gallery of Distinguished
Americans.
Conducted by James Herring and James B. Longacre, New York,
1836: containing sketch of the life of Robert Fulton with en-
graved portrait by G. Parker from painting by Benjamin West,
and facsimile of Fulton's Autograph. The New York Histor-
ical Society possesses the original steel plate of the foregoing
portrait.
Owned by The New York Historical Society.
- 326 The Life of Robert Fulton.
By his friend, Cadwallader D. Colden.
Read before the Literary and Philosophical Society of New
York, New York, 1817.
Owned by The New York Historical Society.
- 327 Historical Sketch of Fulton Ferry and its Associated Ferries.
Printed for the private use of the Company.
Photograph of the Robert Fulton Statue.
Henry E. Pierrepont.
(Illustrated) Brooklyn, 1879.
Owned by the New York Historical Society.

- 328 "A Biographical History of Clermont or Livingston Manor."
1 (printed) volume by Thomas S. Clarkson.
Clermont, N. Y., 1869.
With photographs of Clermont—the residence of Chancellor Livingston; and portrait of the Chancellor; also contains chapters on Steam Navigation, and Sketch of Robert Fulton.
Owned by The New York Historical Society.
- 329 Genealogy of the Fulton Family. Compiled and edited by Hugh R. Fulton. Lancaster, Pa., 1900.
(Genealogical Chart of the family of Robert Fulton—between pages 196–197.)
Owned by The New York Historical Society.
- 330 "The Picture of New York or The Traveller's Guide through the Commercial Metropolis of the United States." By Samuel L. Mitchill.
With Plan (engraved by Peter Maverick) of the City of New York (1807), showing the location of the old State Prison from which point the Clermont started on her first trip up the Hudson, New York, 1807.
Owned by The New York Historical Society.
- 331 Longworth's American Almanac, New York Register, and City Directory. New York, 1809.
First appearance of Robert Fulton's name in the City Directory; residence given: 100 Reed (Reade) Street.
Owned by The New York Historical Society.
- 332 Longworth's City Directory. New York, 1814.
Last appearance of Fulton's name in the City Directory, as residing at Marketfield St., opposite the Battery. (Marketfield Street is the present Battery Place, between Broadway and West Street.)
Owned by The New York Historical Society.

- 333 Longworth's City Directory. New York, 1815.
This Directory gives the name of the widow of Robert Fulton as residing at 353 Broadway.
Owned by The New York Historical Society.
- 334 Clipping from a Brooklyn newspaper (issue of 1875): "Ninety-eight years"—"Death of the Oldest Citizen of Brooklyn—Peter Coffee, the Pilot of the First Steam Ferry-boat," etc.
Loaned by Mrs. M. V. Coffee, Fulton Street, Brooklyn.
- 335 Photograph of James Watt's Workshop in his residence, Heathfield Hall, Birmingham.
Loaned by Samuel V. Hoffman.
- 336 Photo-Postal of James Watt's House, Heathfield Hall, Birmingham, Eng.
Loaned by Samuel V. Hoffman.
- 337 Quarto Volume issued by Taylor and Walton, "Publishers to University College," London, 1848; on "The Origin and Progress of Steam Navigation," compiled by Bennet Woodcroft, Professor of Machinery—University College: containing among its illustrations, a "Perspective View of Machinery in Fulton's Clermont—1807," together with a sketch of the Clermont under way, and considerable text concerning the same. Also a very useful "List of Patents and Documents—nearly all of which are on (and concern) Propelling Vessels," etc., etc., from 1618 to the year of publication.
Loaned by W. P. Stephens, Bayonne, N. J.
- 338 Photograph of Engine Mechanism devised by Robert Fulton; from the original drawings with the date of August the 6th, 1803.
Loaned by Samuel V. Hoffman.
- 339 Letters Patent granted by the United States of America to David Cooke—April 16, 1819,—who "hath alleged that he has invented a new and useful improvement in the mode of propelling Boats

or Vessels by Valve paddles operated on by Steam or other power."

Two pages (parchment) with Seal of the United States and autograph signatures of President James Monroe and John Quincy Adams—Secretary of State.

Loaned by Mrs. Wm. Crocheron.

- 340 Small Photographs of John Davis and Wife (from Remington's —Broadway—about 1861).

John Davis (who claimed descent from the Jefferson Davis stock) was one of the deck hands on the Clermont on her first trip to Albany and possessed a fund of interesting stories of his experiences on her.

He was afterwards the Store keeper (and one of the earliest white settlers) of what is now Owasso, Michigan. His versatility is shown in the fact that he constructed entirely of wood several organs for now prosperous towns (then in their infancy) which have recently won unqualified appreciation from musical experts.

Loaned by Henry Escher, Brooklyn, N. Y.

- 341 Colored lithograph of Fulton Ferry (Valentine's Manual—1864).

Loaned by Mrs. Arthur T. Sutcliffe.

- 342 Robert Fulton's Portrait by Benjamin West, as engraved by Parker.

Loaned by Joseph B. Learmont, Montreal, Canada.

- 343 "The Story of Robert Fulton"—by Peyton F. Miller (Illustrated).

Published by the Knickerbocker Press, New York.

Owned by The New York Historical Society.

- 344 Copy of Mss. Disbursements by Robert Fulton. (See No. 249.)

Loaned by Joseph B. Learmont, Montreal, Canada.

345 Circular issued for the International Maritime Exposition held in the city of Bordeaux, France, from May to November, 1907, "In Commemoration of the Hundredth Anniversary of Robert Fulton's Successful Application of Steam to Navigation." "It must be remembered," says the circular, "that it was in France, on the river Loire, that Fulton, in 1803, made his initial essays."

The exposition was organized by the French Maritime League, under the official patronage of the Government of France.

Robert Fulton Ludlow—a grandson of the Inventor—was a member of the American Committee of Honor.

Loaned by Mrs. Arthur T. Sutcliffe.

346 "Fulton's Day of Triumph"—with amusing quotation from the New York American Citizen of August 17, 1807; a vivid relation of the Clermont's start on her initial trip up the Hudson; also of Fulton's first submarine boat experiments "during his residence in Paris whither he had gone to study Art and remained to practise Applied Science."

(Mounted) Page from The Scrap Book, issue of August, 1909.

Loaned by Joseph B. Learmont, Montreal, Canada.

347 "Robert Fulton and the Clermont."

The authoritative story of Robert Fulton's early Experiments Persistent Efforts and Historic Achievements, etc., by Alice Crary Sutcliffe, Great-Grand-Daughter of the Inventor. The Century Company, New York, 1909.

BUSTS

348 John Jay by Giuseppe Ceracchi.

349 George Clinton by Giuseppe Ceracchi.

350 Benjamin Franklin by Jean Antoine Houdon.

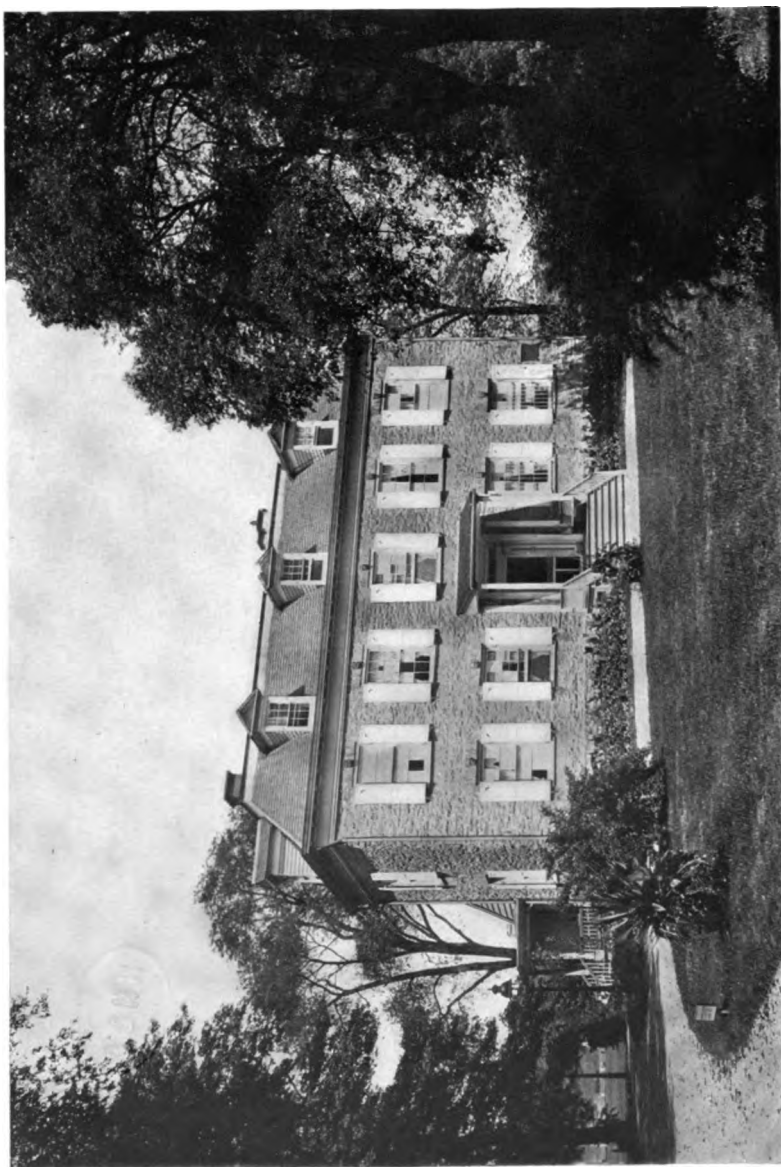
351 Joel Barlow by Jean Antoine Houdon.

352 George Washington by Jean Antoine Houdon.

353 Thomas Jefferson by Jean Antoine Houdon.

354 Benjamin West by Francis Chantrey.

Owned by The New York Historical Society.



VAN CORTLANDT HOUSE MUSEUM

Catalogue



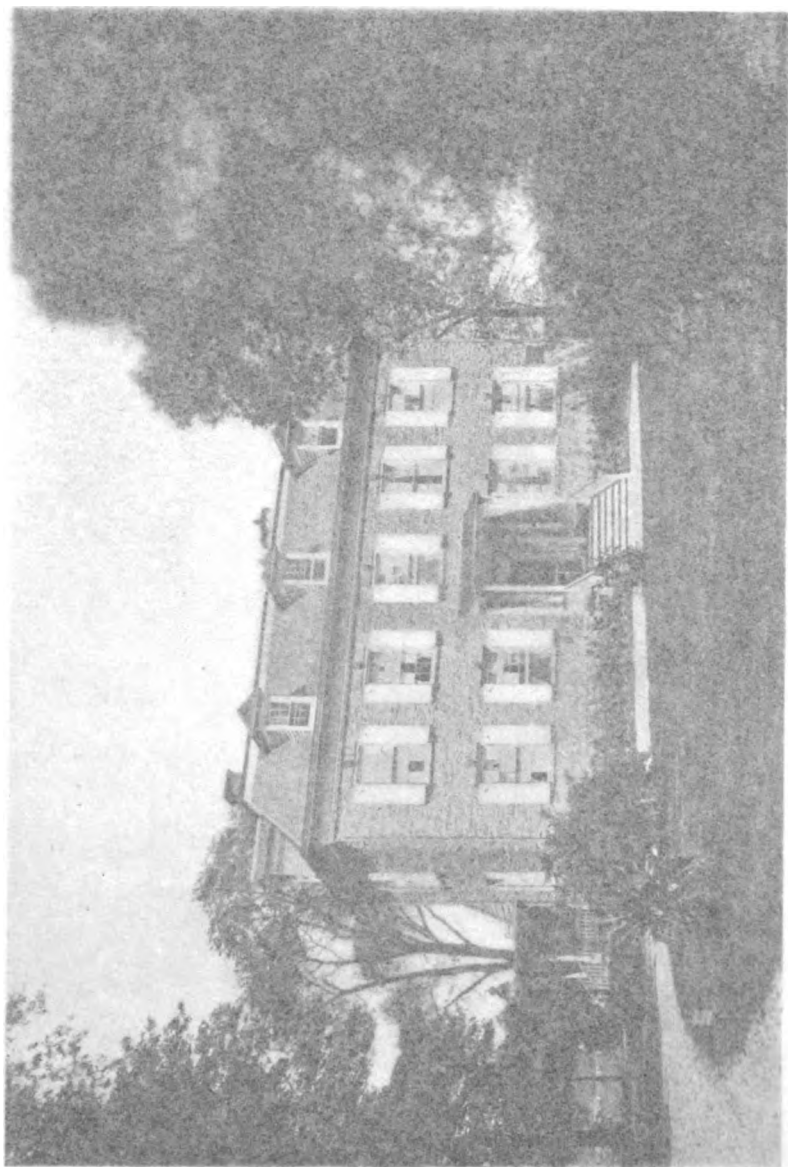
Van derlandt Hout- & Muurwerk

1877

Hudson-Indien-Compagnie



1877



Catalogue
§
Van Cortlandt House Museum
for the
Hudson-Fulton Celebration



September
1909

The Hudson-Fulton Celebration Commission

Appointed by the Governor of the State of New York and the
Mayor of the City of New York and chartered by Chap-
ter 325, Laws of the State of New York, 1906

LIST OF OFFICERS

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Preface

To all who feel a national and civic pride in the commemoration of events connected with the early traditions of America, this exhibition will be of peculiar interest.

The house and its furnishings form a Colonial setting for the portraits and manuscripts of men, both English and American, whose lives and actions made our history.

As Bacon says in *The Proficiency and Advancement of Learning*: "Industrious persons, by an exact and scrupulous diligence and observation out of monuments, names, words, proverbs, traditions, private records and evidences, fragments of stories, passages of books that concern not story, and the like, do save and recover somewhat from the deluge of time."

Collection of Old Mezzotints

SOUTH-EAST ROOM

Portraits of those who were prominent in political circles
prior to the Revolution and closely associated
with affairs in this country

1. **Colonel Isaac Barré.** By H. D. Hamilton. Engraved by R. Houston. R. Sayer, excudit. London: printed for Robt. Sayer, No. 33 Fleet Street. Published as the Act directs, 2 July, 1771.

Author of the name "Sons of Liberty." In American History a name applied to an organization extending throughout all the Colonies opposing first the Stamp Act and afterwards advocating separation from Great Britain.

When the Stamp Act was proposed in 1764, secret organizations, chiefly of workingmen, were formed in the various colonies to resist it. Colonel Barré, in a speech in Parliament, February, 1765, used the phrase "Sons of Liberty," which was at once adopted by these Societies.

With the passage of the Stamp Act, they took the lead in opposition to its enforcement and prevented its execution by force. Owing to the activity of certain members in New York, the Sons of Liberty were perhaps more important in New York than in any other colony.

In New York they controlled the Committee of Safety, and in 1774 the calling of a Continental Congress was in part due to them. In Georgia they were called Liberty Boys, and finally drove the Royal Governor from the State.

Colonel Barré expressed most decidedly his views in regard to the attitude of Great Britain to America. He said he execrated the penal measures of Parliament: "The Americans will not abandon their principles, if they submit, they will be slaves." Colonel Barré was the companion and friend of General Wolfe, sharer of all the dangers and glories of Louisberg and Quebec.

2. **Sir Peter Warren.** Painted by Thos. Hudson. Engraved by J. Faber. Printed for Robt. Sayer, opposite Fetter Lane, Fleet Street. (Chace Coat of Arms.)

Vice-Admiral of the Red Squadron of His Majestie's Fleet and Knight of the Most Honorable Order of the Bath, 1751.

Commodore, afterwards Sir Peter, Warren should be remembered in New York City, as he was the only prominent New Yorker who contributed to Massachusetts' greatest Colonial achievement. As Commander of the blockading squadron, Commodore Warren captured the French relief ship *Vigilant*, in sight of Louisberg, which brought about its fall. For this he was knighted. It brought him into note in English maritime affairs and also into prominence in New York politics. He had the very greatest influence at home, as the English Government gave him almost the entire credit for the reduction of Louisberg.

3. The Right Honorable George Grenville. Painted by Wm. Hoare. Engraved by James Watson. Printed for John Bowles, at the Black Horse in Cornhill, London.

First Lord Commissioner of the Admiralty and one of His Majesty's Most Honorable Privy Council.

Premier of England 1763-1765. As Chancellor of the English Exchequer, Grenville in 1765 proposed a bill for taxing the Colonies through a stamp duty. No serious opposition was expected, but the measure aroused great excitement in America as an attempt at taxation without representation. The Stamp Act Congress, which met in New York on October 7th, 1765, declared the Stamp Act to have a manifest tendency to subvert the rights and liberties of the Colonies.

To Grenville must be ascribed the alienation of the affections of the American Colonies from the Mother Country. He never swerved from his determination to impose a tax through Parliament and to enforce its collection by all the forces at the disposal of the Administration.

4. The Right Honourable William Pitt, Esqr. Done from an original picture in the possession of Earl Temple, by Richd. Houston. London: Painted for Robert Sayer, Map and Printseller at the Golden Buck, near Sergeant's Inn, Fleet Street. Published according to Act of Parliament, 20 April, 1766.

One of His Majesty's Most Honorable Privy Council.

5. His Excellency Jonathan Belcher, Esqr. Painted by R. Phillips. Engraved by J. Faber, 1734. (Coat of Arms.) Motto: *Loyal au mort.*

Captain General and Governor in Chief of His Majesty's Provinces of Massachusetts and New Hampshire in New England and Vice Admiral of the Same.

It was his financial assistance which made possible the founding of Princeton College.

6. Sir Charles Hardy. Painted by Thos. Hudson. Engraved by P. Dawe, London. Published as the Act directs, 23rd of September, 1779, by Robt. Wilkinson, at No. 58 in Cornhill.

Admiral of the White and Commander in Chief of His Majesty's Fleet in the Channel. Grandson of Sir Thomas Hardy, his father was also an Admiral. Born about 1713, in 1741 in command of the *Red* of 40 guns; 1755 knighted and appointed Governor of New York; rear Admiral of the White; acted under Boscawen at the Reduction of Louisberg in 1758; married to Miss Stanyan, 1759; commanded under Hawke in the battle of Belle Isle, 1764; M. P. for Rochester and for Plymouth, 1771; Admiral of the White in command of the grand fleet in 1779. Died at the Fountain Tavern in Portsmouth, 19th of May, 1780.

7. The Right Honorable Frederick Lord North. Painted by N. Dance. Engraved by T. Burke. Published Sept. 20th, 1775, by Wm. Wynne Ryland, engraver to His Majesty, No. 159 near Somerset House, Strand, London.

First Lord Commissioner of His Majesty's Treasury, Chancellor and Under Treasurer of the Exchequer, Chancellor of the University of Oxford. One of His Majesty's Most Honorable Privy Council, Knight of the Most Noble Order of the Garter, etc.

8. John Wilkes, Esqr. Four times elected Member of Parliament for the County of Middlesex. Alderman of the Ward of Farringdon Without.

9. Augustus Keppel, Viscount. Painted by G. Romney. Engraved by W. Dickinson, London. Published March 30th, 1779, by Dickinson & Watson, No. 158 New Bond Street.

An English Admiral, second son of Wm. Anne Keppel, second Earl of Albemarle.

Commanded the North American Squadron in 1755. Made a successful expedition to Cuba when Havana was captured in 1762.

10. Etienne François Duc de Choiseul. Painted by L. M. Vanloo. Engraved by Robt. Lowery. Excudit by R. Sayer. Imp.: à Londres chez Robt. Sayer, Fleet Street No. 53, Publié selon l'Acte du Parlement le Mai, 1771. Stephen Francis, Duc de Choiseul. Engraved by R. Laril after Vanloo.

Exile le 24 Décembre, 1770.

La France le regarde * * * * * Solatia Lactus
Exigua ingentis.

Born 1719; appointed Ambassador and leading Minister by Louis XV; concluded the treaty called Pacte de Famille, relating to the various branches of the Bourbon House. On the death of Mme. Pompadour in 1764, his influence declined and he was exiled in 1770. He was recalled on the accession of Louis XVI, and died May, 1785. An intimate personal friend of Franklin and very active in behalf of America.

11. Major General James Wolfe. From an Original Picture in the Possession of Her. Smith, Esqr. Engraved by Corbus.

Commander in Chief of His Majesty's Forces on the Expedition against Quebec.

12. J. Fothergill, M.D. Painted by G. Stuart. Engraved by V. Green. Mezzotints Engraver to His Majesty and to the Elector Palatine. Published June 1, 1781, by G. Stuart, V. Green, No. 29 Newman Street, Oxford Street.

Quaker physician and friend of Franklin. Inscription at Carr End in Yorkshire: 1712 of Quaker parents; came to London in 1736 and attained great eminence as a physician, acquiring a fortune which was computed at £80,000. He died at his house in Harper Street, 26 Dec., 1786, and was interred at the Quaker's burying ground at Winchmore Hill. He had a great taste for Natural History, especially botany and shells and formed fine collections in these pursuits. He also purchased for 80 guineas the English portraits collected by Mrs. John Nicholls of Ware, arranged in four folio and six quarto volumes, a catalogue of which was published by Ames in 1748; these were purchased

at Dr. Fothergill's death for 200 guineas by Thane the print-seller who broke up the volumes and disposed of the prints separately, realizing an exceedingly large profit on the transaction. These prints are occasionally met with and may be recognized by having been cut to the plate mark and inlaid in an ugly colored border.

13. B. Franklin, of Philadelphia, LL.D., F.R.S. Painted by M. Chamberlin. Engraved by E. Fisher. Sold by M. Chamberlin in Stewart Street Old Artillery Ground, Spittalfields.

The greatest diplomatist of his century. In 1766 Franklin, referring to the taxation by Parliament, said: "I will freely spend nineteen shillings in the pound to defend my right of giving or refusing the other shilling." His efforts never ceased until peace and international good-will were established between England and America.

14. Lord Loughborough.

15. Earl Temple. Painted by Sir Joshua Reynolds. Engraved by W. Dickinson. London: Pub. May 10th, 1778. (Coat of Arms.) Motto: *Templa quam Delecta.*

16. Mr. Sergeant Glyn. Member of Parliament for the County of Middlesex.

16a. John Wilkes, Esqr. Elected Knight of the Shire for the County of Middlesex, 29th March, 1768. Alderman of the Ward of Farringdon Without.

16b. The Reverend Mr. John Horne. Painted by Robt. Houston. Published as the Act directs, Feb. 6th, 1769, by Robt. Sayer at No. 53 in Fleet Street, & John Smith at 35 in Cheapside, London.

Minister of New Brentford.

17. The Right Honorable Charles Pratt. Painted by W. Hoare. Engraved by J. Spilsbury. Published according to Act of Parliament by J. Spilsbury, Engraver and Map and Print-seller in Russell Court, Covent Garden. July 20, 1766.

Lord Camden, Baron Camden of Camden Place, in the County of Kent and Lord Chief Justice of His Majesty's Court of Common Pleas.

18. The Honorable Robt. Monckton. Published according to Act of Parliament by Wm. Austin, Drawing Master at the Print Warehouse in Bond Street, London.

Major-General of His Majesty's Forces, Colonel of the 17th Regt. of Foot and Governor of Berwick, to whom this Plate is dedicated with the greatest respect by his most obed't servant, Wm. Austin.

Robert Monckton appointed Captain-General and Governor of New York by the King on March 20th, 1761.

He was second in command to General Wolfe at Quebec.

19. Lord George Germain. Painted by G. Romney. Engraved by John Jacobé. Excudit by John Boydell. Published November 1st, 1780, by John Boydell, Engraver in Cheapside,

London. (Coat of Arms.) Motto: "Aut nunquam Tentēs aut nunquam perficet."

One of His Majesty's principal Secretaries of State, etc.

20. The Right Noble Charles Marquis of Rockingham. Painted by Sir Joshua Reynolds. Engraved by E. Fisher. Published as the Act directs Aug. 15th, 1774, by E. Fisher, South Side of Leicester Square, London. (Second state.)

Earl of Malton, Viscount Higham of Higham Ferrers, Baron Rockingham of Rockingham, Baron of Malton & of Wath & Harowden, Lord Lieut. & Custs. Rotulorm. of the West Riding of the County of York, & Custs. Rotm. of the North Riding of the said County and Vice Adml. of the Maritie. Ports thereof, etc.

Born 1730, succeeded his father as 2nd Marquess in 1750; first Lord of the Treasury, 1765-66; leader of the Opposition in the House of Lords during Lord North's administration; again Premier in 1782, but died suddenly on the 1st of July in that year.

21. Charles Townshend. 1725-1767. Painted by J. Reynolds. Engraved by J. Dixon.

Chancellor of the Exchequer in 1766. Famed for incomparable talents and extreme instability. Courted by all parties, but never possessing the confidence of any. On March ninth, 1763, Townshend introduced the first part of the scheme for taxing America by an Act of Parliament. He championed various measures of oppression against the American Colonies known as "The Acts of 1767."

22. Sir Charles Hardy, Knt. Painted by G. Romney. Engraved by W. Dickinson. London: Published January 21st, 1781, by Dickinson & Watson, No 158 New Bond Street.

Admiral of the White. Commander-in-Chief of His Majesty's ships in the Channel and Master of Greenwich Hospital.

23. Charles, Duke of Richmond, &c. 1778. Painted by G. Romney. Engraved by J. Watson. Published according to Act of Parliament, December 21st, 1778.

A minority leader of the House of Lords; he steadily opposed the King's American policy. Frequently spoke of the Continental Army as "Our Army."

24. Jeffrey, First Lord Amherst. 1717-1797. Painted by J. Reynolds. Engraved by J. Watson, 1766.

An English general of much celebrity, whose long service in America began in 1758, when he commanded the successful expeditions against Louisburg and Fort du Quesne. Brave and daring in mind he early conceived the idea, and determined that the whole of Canada should become a British province—in quick succession followed one successful campaign after another until the end was accomplished. He was appointed commander-in-chief of all the forces in America, and Governor-General of the British provinces in 1760. Many honors were conferred in recognition of his services, among which in 1776 he was created Baron Amherst of Homesdale in Kent.

25. Catherine Macaulay, Aet 32. Painted by Kath. Read. Engraved by J. Spilsbury. Printed for Jno. Spilsbury, Engraver and Map and Printseller in Russell Court, Covent Garden, September, 1764.

Author of History of England, daughter of John Sawbridge, married 1st in 1760 Dr. George Macaulay, married 2nd Mr. Graham. Came to America in 1785, where she was exceedingly popular.

26. Edmund Burke, Esqr. Painted by Sr. Joshua Reynolds. Engraved by James Watson. London: Printed for J. Watson in Queen Ann Street, near Titchfield Street, Oxford Road. Published as the Act directs, 20 June, 1770.

Well known as an upholder of America. When the Repeal was moved and Cornwall stated the question to be simply "whether the whole of British authority over America should be taken away," Edmund Burke pronounced an oration such as had never been heard in the British Parliament. He first demonstrated that the repeal of the tax would be productive of unmixed good. He entreated Parliament to "reason not at all." Again and again he entreated. "Revert to your old principles," he urged. "Seek peace and ensue it." "Leave America, if she has taxable matter, to tax herself." But even after his splendid eloquence, no more members divided with him than forty-nine, while on the other side stood nearly four times as many.

The legislature of New York unanimously elected Edmund Burke their agent in England, allowing for his services at the rate of five hundred pounds per annum.

27. The Right Reverend Jonathan Shipley. Painted by Sir. Jos. Reynolds. Engraved by J. R. Smith. Published 5th February, 1777, by J. R. Smith, No. 10 Bateman's Buildings, John Square.

Bishop of St. Asaph. An intimate friend of Benjamin Franklin. Active in support of America in the House of Lords.

28. Thomas Pownall, Esqr. Painted by Coles. Engraved by Earlom. London: Printed for R. Sayer & J. Bennett, No. 53 Fleet Street; as the Act directs, 5th June, 1777.

Member of Parliament. Active in support of America in the House of Commons. Late Governor Captain General and Commander in Chief and Vice Admiral of His Majesty's Provinces Massachusetts Bay and South Carolina and Lieut. Governor of New Jersey.

29. The Honorable Edward Vernon, Esqr. 1684-1757.

To the Rt. Hon. the Lord Mayor, the Court of Aldermen and ye Common Council of ye City of London this Plate is humbly dedicated by their most obedient servt., John Faber.

Sold by Faber at the Golden Head in Bloomsbury Square.

T. Barthwell, pinxit; J. Faber, fecit, 1740.

Vice Admiral of the Blue and Commander-in-Chief of all His Majesty's Ships in the West Indies. He entered Parliament in 1722. Served in the War of the Spanish Succession 1701-13. Had charge of the Expedition against Cartagena. Three



NO. 29. THE HONORABLE EDWARD VERNON, ESQR., 1684-1757

companies for it enrolled from Virginia—Record dated August sixth, 1740, in which Lawrence Washington served as Captain.

Mount Vernon was named by Lawrence Washington after his old friend and companion in arms, Admiral Vernon.

Struck from the list of Admirals in 1746 for publishing a couple of pamphlets against the admiralty.

SOUTH-EAST ROOM

30. Walnut round tilt-top table. Carved standard, with rat claw feet. About 1775.

31. Octagonal table cabinet.

32. Mahogany window seat. Sheraton style. Arms at either end carved in branches of leaves crossed; legs carved in acanthus leaf design, terminating in brass claw feet.

33-38. Two carved mahogany chairs. Chippendale style; ball and claw feet, seat slightly curved; no supports. Pure style, about 1760.

34. "Pembroke Table." So named according to Sheraton, from the name of the lady who first ordered one. Inlaid. Mahogany, one drawer. Heppelwhite style.

35. High glass vase, with cover, cameo cutting, seven coats of arms on body. Height, 17 inches.

36. Carved and gilded mirror, in original state. Plaster gilt in flower design, tassel at either end, in center large rosette surmounted with flowers. Sheraton design.

37. Mahogany chair. Late Chippendale. Straight legs. About 1775.

39. Mahogany arm chair. Chippendale, showing Gothic influence, arms not original, double ogee curve, grooved legs, underbraced. 1770.

40. Spinnet. Inlaid case, straight tapering legs. Maker, Baker Harris, London, fecit. 1771.

41. Tall candle-stand, with two holders and snuffers. Steel and brass. Middle of 18th century.

42. Round-a-bout chair. Chippendale style, front foot ball and claw. Splats handsomely carved, rope moulding about bottom of frame.

43. Chair. Chippendale style, ball and claw feet, carved mahogany. About 1760.

44. Round-a-bout chair. Extension top, crossed stretches, straight legs, four ball feet. Chippendale.

45. Arm chair. French, painted, Louis XVI style, originally at Mount Vernon. A gift to Van Cortlandt Museum from Mrs. John Crosby Brown.

46. Mahogany tilt-top tripod table. Edges of top cut in double ogee curves; claw feet and carved knees.

47. Dutch carved oak Bible-box. Scandinavian design in the style of the first half of the 17th century.

48. Mahogany ladder-back chair. Chippendale design, straight legs. About 1770.

49-50. Pair of tall glass candle-sticks, with glass shades, in original condition.

51-52. Pair of vases. Cameo decoration. Front design, Figure of Fame pointing to monument on which is inscribed "Howe and Nelson"; on back, figure of Mercury.

53. Covered Staffordshire blue and white vase. Wedgwood figure design on top of cover.

This is one of a garniture of five and is a fine and rare piece.

54-55. Pair of miniature portraits. Paper, "Deborah Dennis, wife of Joseph Freeman, New London, Conn.; Daniel Henry Freeman, their son, aged twenty-six years.

Joseph Freeman was seventh in direct descent from Elder Brewster on the distaff side, and his ancestor was one of the seventy settlers of New London who received their grant from Queen Anne.

These miniatures were made by a woman of New London, in 1769, name unknown."

56. Pierced brass fender. Brass steeple andirons and fire shovel.

Over-mantle. In Georgian style, broken arch pediment, outer moulding carved in leaf design, inner moulding in egg and dart, center of broken arch, urn with flowers. **Fire back.** Adam and Eve with Phœnix arising from flame.

The Pewterer's Craft

The use of pewter utensils for the household succeeded wood, but it went out slowly and gradually before the more general adoption of china and earthenware.

The earliest pewter of best quality was made of tin with as much brass as the tin could take up. Another alloy less fine was tin and lead. The tankards and mugs used in public houses had such a great proportion of lead that they were sometimes known as "black metal," because they tarnished so easily.

In the pewterer's trade, the various qualities of the metal are still known as plate, trifle and ley. Pewter is manufactured now, as it was more than five hundred years ago, by casting and hammering. The best material for moulds for casting pewter is gun-metal.

"Lad-ware" men worked at heavy articles, such as plates, dishes, chargers and trenchers.

"Hollow-ware" men worked at large pots, measures, tankards, flagons, pint pots, etc.

Triflers worked in trifle metal on lighter wares, spoons, forks, buckles, buttons, toys, etc. Pewter toys date back to Roman times, and have been dug up at various places in England and on the Continent. The marking of pewter was first made compulsory by Act of Parliament in 1503. This Act also provided the makers of pewter wares should mark the same with several marks of their own, "to the intent that the makers shall avow the same wares by them to be wrought." The "Touch-mark" spoken of in connection with pewter, is the mark of the maker of each particular piece. It may be his name accompanied by some device like a rose, a figure, or an animal.

The weight of the lids of tankards was generally carried on an upright pewter pillar, clamped on the upper side of the handle. In 1552, in London, "Every Satterdaye," the makers of the pewter lids were compelled to bring their whole weekly output to the Hall, that if they were judged sufficiently well wrought, the lids might be stamped outside with the mark of the Hall, as well as with the makers own personal mark. Metal confiscated on the ground of being bad in quality was generally stamped with a broad arrow. In 1697, none might strike the letter X except upon extraordinary ware, commonly called "hard metal ware." In England pewter was owned by rich prelates as early as 1427. For a long time the chief users of pewter were the ecclesiastics. In 1348 the London Ordinances mention "disshes, chargeours, pottes, cruettes, cistils, all of fine pewter, besides cullenders, kettles, tobacco-pots, egg-cups, cranes, fish-plates, hash dishes and fowl boilers." Early in the Sixteenth Century pewter held an honourable position in the furniture of a household, and was too valuable to be common. In the "trew inventory" of the house furnishings of an English Knight, in 1618, mention is made of pewter "boyle-meat dishes, or deep platters, large platters, pewter flaggon-potts, sallet dishes, nyne pewter candlesticks in the kytchin and the

kytchin entry." As the pewterers grew more expert, the designs improved. An old book tells us : "Pewterers who in time past imploied the use of pewter onlie upon pots, dishes and other trifles for use at home, are now growne unto such exquisite cunning that they can in manner imitate by infusion anie fashion or forme of cup, dish, salt bowle or goblet made by the goldsmith's crafts, though they be never so curious, exquisite and artificially forged. Of porringers, pots and the like, I speake not, albeit that in the making of all these things, there is such exquisite diligence used, I meane for the mixture of the mettall and true making of this commoditie as the like is not to be found in any other trade." So much pewter ware was recast when damaged, instead of being repaired, that thus many old pieces disappeared. The charm of well-designed, well-wrought pewter lies in the form and color. A shelf of old pewter with its "moonlight sheen" bespeaks a dignity and reposefulness all its own.

Dining Room

1. **Round pewter platter.** Gadrooned, moulded rim, presumably Flemish. Hall mark illegible. Diameter, $13\frac{3}{4}$ inches.

2. **Pewter gill measure.** Hall marked on edge. Dixon and Son. In front "Imperial." A crown between the initials G R, with IV below.

3. **Round pewter platter.** Gadrooned. In center, Agnes Dei on book with five seals. Inscription, Abter Bildhausen. 1771. A N, Agn. Dei.

Mark repeated three times of angel with scales in one hand, bell in other, in an oval surrounded by Georg—Kn L I—Flemish?

4. **Dutch pewter coffee urn.** Three ball feet with wooden supports, wooden finial on cover, two handles. Height, 18 inches.

5. **Pewter tray.** Engraved, irregular border; rose crowned. Angel blowing trumpet, Fleur-de-lis beneath. Probably French. Diameter, 11 inches.

6. **Oval two-handled pewter dish.** Gadrooned edge. Hall marked in center, 1—semi-griffen, 2—three crowns, Hus—pitt above, 3—crown above and S. W. fein, ^{S. W.}_{fein} below. All three in cartouches. Diameter, $19\frac{1}{2}$ by $11\frac{1}{2}$ inches.

7. **Pewter tankard with chain and handle.** Two marks, one F, crown in circle—the other on outside lid, illegible. Body octagonal.

8. **Pewter punch bowl.** Monteith. Two handles, X crown. Height, $8\frac{1}{2}$ inches.

The Monteith is a punch bowl which in silver came into fashion about 1697. It had a movable rim ornamented around the top with escallops or battlements to form indentations in which glasses were placed with the feet outwards.

9. **Pewter chocolate pot.** Gadrooned, moulded spout, leather covered handle.

10. **Large pewter charger.** Moulded five-sided border. Monogram, W. F.

Originally belonged to Walter Franklin, of Franklin Square, New York, and was in house when occupied as first Presidential mansion, by General George Washington, April, 1789.

Marked, "Made in London. John ———. Superfine hard metal." X crowned. Diameter, $17\frac{1}{2}$ inches.

11. **Oval pewter meat platter.** Hall marked. His Majesty's patent. Royal coat-of-arms. Motto: Dieu et mon droit.

- 12-13. Pair round pewter platters.** Crest on border. Maker, James Tisoe, * on back. 1764. Diameter, 18 inches.
- 14. Pewter spoon rack.** Heart-shaped, copper ring handle. Hall marked. German eagle. Pros. — illegible. G. L. in shield.
- 15. Pewter flagon.** Mid band, S handle. Mark on bottom and inside the lid—Fein—standing figure of Justice bearing sword and scales in cartouche. Name illegible. On top of cover, C. F. 1792. Height, 12 inches.
- 16. Pewter flagon.** Very similar to No. 15. Three marks on back of handle. Large rose on bottom. On thumb piece, F. I. D. R.
- 17. Engraved pewter pitcher.** Double acorn thumb piece. Maker's mark. Rose crown. N. D. in crown.
- 18. Pewter milk can.** Made to be carried by straps. Marked on bottom. Crowned hand with J. P. S. surrounding, all within cross. Height, 18½ inches.
- 19. Pewter tankard.** Moulded base; thumb piece broken off; coat-of-arms. Engraved floral design. Marked 1788, I. D. S. Three Hall marks; date in one, 1708.
- 20. Pewter urn.** Adam design. Engraved drapery decoration; green ivory spigot, four ball feet. Marked I. V.
- 21-22. Pair pewter candle-sticks.** Inverted floral design. Height, 8 inches.
- 23. Pewter teapot.** Fluted sides. Cartouche on each. Initials E. H., engraved. Maker, I. Vickers, on bottom. Height, 6 inches.

ON DINING TABLE

- 24. Pewter hot water plate.** Gadrooned edge, two drop handles.

Three round pewter plates, with gadrooned edges. Coats-of-arms on border. Four marks. One, Burford † and Green, ‡ in a cartouche surrounding coat-of-arms on backs, and three imitation Hall marks—Lion, Britannica, Leopard's head—on edge.

Pewter meat platter. Irregular moulded edge. Two coats-of-arms engraved on border.

* JAMES TISOE. Livery 1746. Renter Warden 1764.

Maker's mark. A portcullis; Christian name above and surname below, in curved scrolls.

† THOMAS BURFORD. Livery 1750. Upper Warden latter part of 1778.

‡ JAMES GREEN. Livery 1750. Steward 1760. Upper Warden first part of 1778.

Maker's marks. On a shield, a cross with two cross crosslets, fitchée in chief, for Burford; impaling three stags tripping, for Green; names above and below, in curved scrolls.

Pair pewter salt cellars. Gadrooned. One with standing figure of Justice bearing sword and scales. Initials J. V. L., all in shield.

Pair spoon holders. Height, 6 inches.

Pair of pepper boxes.

Mustard pot.

Pair pewter candle-sticks. Marked—Fein—in three shields. Height, $7\frac{1}{2}$ inches.

Pair pewter candle-sticks. Gadrooned. No marks.

Two-handled pewter porringer and cover, with stand. Three ball and claw feet on each. Standing figure of Justice bearing sword and scales. D. in circle beneath. Engraved I. W.

Pewter snuffer tray, with four feet and handle. Length, 7 inches.

Two pewter moulds.

Small pewter teapot. Marked crown rose. A. V. S.

At Pewterers' Hall, London, are the five touch plates remaining in the possession of the Master, Wardens, and Court of the Worshipful Company of Pewterers. These plates are of copper, and about eighteen inches in length by twelve in breadth, on which over 11,000 makers' marks have been struck, and must necessarily form the foundation of any work dealing with pewterers' marks. The company also possesses the list of the Livery compiled in 1740 from earlier records, and which has been continued and entered up from time to time until towards the end of the 19th century. This list shows the date on which each member joined the Livery—the years when he served the offices of Steward, Renter Warden, Upper Warden, and Master, or paid the fines for not serving such offices.

25. Gate-legged table.

Joined or wainscott tables represent the oldest style of table found in this country. They were superseded by the "large," "round," or "oval" tables, with leaves at ends and sides, supported by one or more legs, which swung out from the main frame, familiar designation for which is "thousand-legged table." Nearly all these tables had a drawer on side runners.

The dining table used by the Van Cortlandt family at the Manor House, Croton-on-Hudson, New York, since early in the 17th century is of this style.

26. Blue and white Delft-bowl. Early 18th century.

Potteries were established at Delft, Holland, at a very early date; fine ware, it is said, was produced in 1480, but nothing certain is known before 1614, when a patent was granted to Claes Janssen Wytman for making porcelain.

27. Lowestoft bowl, with armorial decoration.

28. Norwegian wooden drinking mug. Lion thumb piece. Height, $9\frac{1}{2}$ inches.

This mug is said to have belonged to Sir Henry Morgan, the great buccaneer, who was born in Wales, 1637, died in Jamaica, 1690. At one time he commanded a fleet of thirty-seven sail, the largest that any buccaneer had ever commanded in these waters.

29. Wedding chest. E. E. in middle panel, drawer beneath with original wrought iron handles; top not original, as these chests usually have quarter round moulding cut from edge of top. Known to collectors as the Hadley chest, many having been found in the neighborhood of Hadley, Mass. They date probably from 1690-1720, and are characterized by pine tops, the back and bottom of the chests, as well as the drawer frames also, of pine, with ends panelled—not carved. The centre panel almost invariably has initials. One, two and three drawers are found in Hadley chests. Height, 38 inches; width, 42 inches.

30. Dutch oak cabinet. Closed shelf beneath. Top moulding cut in a characteristic Dutch design. About 1700. Contents of much interest, owing to their antiquity.

FIRST SHELF

Two Delft plates. Blue and white. Brass snuffers in standard on three feet. Height $7\frac{1}{2}$ inches to top of ornamental cock.

SECOND SHELF

Two Chinese and one Delft saucer. Three brass braziers, wooden handles; two with reticulated edges, one pierced.

THIRD SHELF

Two Chinese blue and white tea caddies.

Four Dutch Delft polychrome fruit.

Two Delft plates. Oriental design.

Two Dutch Biblical tiles.

Delft flower pot. Decoration, "Long Eliza." Tall, graceful forms of women, named by the Dutch, "Lange Lijsen."

Two Dutch polychrome horses.

31. Linen folder. Probably Scandinavian. Elaborately carved. Geometrical design.

32. Fire stand, shovel and tongs of steel, with brass tops.

33. Wire and brass tender. Brass steeple andirons, rights and lefts. Originally belonged to the Chester homestead.

34. Pair of wooden bellows.

35. Norwegian hand-mangles are long, flat boards, often very elaborately carved and painted, with a raised handle at one end for the right hand—the handles usually take the form of a



DUTCH OAK CABINET AND "HADLEY" CHEST

horse, lion, or scroll; in Norway the horse style of handle predominates—the carving is generally of a geometrical scroll or floral design. In some cases there is a second handle or knob for the use of the left hand; if this is not present, there is generally a plain panel for the fingers of the left hand to press on, in order to give weight to the mangle when passing over the roller, and on this cartouche the date and initials are painted.

The oldest specimens found in museums in England, Sweden, Norway and Denmark dates 1630.

The Dutch hand-mangles are flat without a projecting handle—the rollers about 18 inches long, by 2 inches in diameter.

Richard Quick tells us in the *Antiquary* that “mangles were formerly considered one of the essential domestic objects for all young housewives, and one was often given the bride by the bridegroom, who either carved her name or initial on it, or had it so done before presenting it.” These mangles are nearly all made of ordinary Scotch fir.

36-37. Pair of blue and white Delft plates. Oriental design. Diameter, 14 inches.

38. Delft garniture of five pieces. Blue and white.

The Wu Shê or Chinese set of five vases differs in form and arrangement from the mantel set largely imported by the Dutch East India merchants in the 17th and 18th centuries; the latter included three covered jars, with two beakers between, usually in blue and white, or with enamelled panels on a lustrous brown tzu-chin ground, a style of decoration known in Europe as “Batavian.”

The Dutch settlement in Java was founded in 1602.

The Wu Kung, or five sacrificial vessels, sometimes found on the domestic altar in Chinese houses, consists of an incense urn, two pricket candle-sticks and two side vases, the last changing with the seasons.

39. Pair of old Sheffield candle-sticks. Two coats-of-arms on each. Glass shades.

40. Hall clock. Marked Walter Archer, 1619. Case is made of pine, or some other soft wood; band of carving at top is early in design. Single arch moulding about doors, spandrels of third order cupids holding a crown, which came into fashion about 1700. The maker's name, Walter Archer, appears between the numerals VII and V, which shows it to date probably before 1715.

Though dated 1619, the engraving is of a different depth from the rest of the face, and was without doubt added at a recent date.

Description and illustration in L. V. Lockwood's “Colonial Furniture in America.”

41. Carved oak napkin press.

42. Mahogany wine chest. Made to hold twelve bottles. Inlaid, ball feet and original brass handles.

43. Corner cupboard. Early 18th century.

First Shelf

One sextagonal and one octagonal case bottles. Cut design. Owned by David Prevost, mayor of New York 1699.

Cut glass wine decanter, with original mushroom stopper.

Soup tureen, gravy boat and tray of Staffordshire printed ware.

Pink lustre plate.

Dutch polychrome platter. Printed plate, marked J. Furnewald & Co.

Two Worcester plates. Oriental Lowestoft platter, blue and gold design, basket of flowers in center. Cup and saucer, European porcelain, marked R. B. Pottox.

Lustre pitcher. Raised hunting decoration.

Second Shelf

Brass teapot, with wooden finial, on pierced stand of four feet and two handles. Height, 10½ inches.

Crooked neck gin bottle and cut glass wine glasses.

Oriental Lowestoft pierced fruit dish.

Third Shelf

Stoneware pitcher and mug. Silver rim, five marks I. J. S. 2, woman's head. 3, woman with distaff. 4, coat-of-arms. 5, E; all in cartouche marked Sexton.

Small plate. Early Staffordshire, raised and colored decorations, figures in center, raised flower border.

Worcester shallow dish. Printed, blue and white, landscape design.

Copper teapot. Reticulated gallery edge brass finial, pierced brass stand with three wooden feet. Old and rare.

Copper lustre pitcher. Cameo decoration, pink lustre rim and handle.

Fourth Shelf

Large pitcher. Staffordshire. Center decoration. Head of Washington surrounded by fifteen stars with names of fifteen States. Opposite "The Aurora" of Philadelphia.

In colonial days the sea captains ordered these large pitchers for their own table use directly from the potters. Height, 12 inches.

Fifth Shelf

Large brown stoneware pitcher.

Large Staffordshire pitcher. Dark blue border, orange skin surface. Acanthus leaf handle. Height, 12 inches.

44. Heppelwhite inlaid side board. Original brass shell handles, four drawers above, three cupboards, middle one double. Heppelwhite side boards will always be known by the convexity of their front toward the sides.

Inlaid Heppelwhite knife-box. Complete Silver escutcheon, shield shape.

Mahogany double tea-box. Inlaid silver handle, ivory escutcheon. Complete.

Satinwood double tea-box. Inlaid silver handle.

Chippendale mahogany knife-box. Silver mounts. Hall marked. Maker, J. W.

Pair of single tea-boxes. Walnut shell design on green inlay. On cover, flower design.

45. Walnut chair. Dating about 1770.

46. Chair. Late Chippendale design.

47. Chippendale chair. Grooved legs in front, under-braced. Design of back very popular throughout 18th century.

48. Mezzotint portrait on glass. The Right Honble. William Pitt, Esqr., one of His Majesty's principal Secretary's of State, and one of His Majesty's Most Honble. Privy Council.

Painted by Wm. Hoare. Engraved by E. Fisher. Sold by J. Boydell, engraver in Cheapside, 1760.

49. Mezzotint portrait on Glass. General Robert Monckton, 1726-1782. Governor of New York, 1761.

50. A view of Fort George, with the city of New York from the S. W.

Printed for Carrington Bowles. Map and Printseller at No. 69 in St. Paul's church yard, London. Sculp. I. Carwithan.

51. Colored print of fruit. November, 1732. From the collection of Robt. Furber Gardiner, Kensington, 1732.

Designed by Peter Casteels. Engraved by Samuel Smith.

52. A south-east view of the city of New York in North America.

Drawn on the spot by Thomas Howdell, of the royal artillery. Engraved by P. Canot, London. Printed by John Bowles, at No. 19 in Cornhill; Robert Sayer at No. 53 in Fleet Street; Thos. Jeffreys, the corner of St. Martin's Lane in the Strand; Carrington Bowles at No. 69 in St. Paul's church yard, and Henry Parker at No. 82 in Cornhill.

1. New College.
2. Old English Church.
3. City Hall.
4. French Church.
5. North River.
6. Staten Island.
7. The Prison.

53. A south-west View of the City of New York in North America.

Drawn on the spot by Captain Thomas Howdell, of the Royal Artillery. Engraved by P. Canot.

1. The Harbour.
2. Nutting Island.
3. Staten Island.
4. Long Island.
5. Rutgers House.
6. South River.
7. Brew House.

Mantel. Late Sheraton style, similar to those found in New Jersey and New York. Carved rosettes in center, and over columns.

Colonial Maps

SOUTH-WEST ROOM

With marine science so undeveloped on account of the crude instruments used in navigation and the difficulty of precise surveys and observations of latitude and longitude, accurate map-making was well-nigh impossible.

1. **Map of Nieuw Amsterdam, otherwise named Nieuw Jorck.** By Reinier and Joshua Ottens. "This Ottens map was probably published about the middle of the eighteenth century."

2. **A Plan of the City of New York** and its environs to Greenwich on the North or Hudson's River and to Crown Point on the East or Sound River, showing the several Streets, Public Buildings, Docks, Fort and Battery with the true Form and Course of the Commanding Grounds with and without the town, Surveyed in the winter of 1775.

To the Hon. Thos. Gage, Esqr., Major General and Commander in Chief of His Majesty's Forces in North America and Colonel of the 22nd Regiment of Foot. This plan is Most humbly Inscribed by his obedient servant, John Montresor, Engineer.

3. **Map of Nicolas Joannis Visscher**, entitled "*Novi Belgii novaeque Angliae nec nou Partis Virginiae Tabula multis in locis emendata a Nicolas Joannis Visscher.*" The picture contained in this map is believed by some, though not established with certainty, to be taken from a sketch or drawing made by Augustine Hermans in the year 1656. An account of Hermans is given in Joseph Dancker's and Peter Sluyter's Journal of a Voyage to New York and a Tour in several of the American Colonies in 1679-80.

4. **Map. Danckers.** 1680. Entitled "*Novi Belgii, Novaeque Angliae nec nou Pennsylvaniae et Partis Virginiae tabula, multis in locis emendato.*"

Inset—View of Nieuw Amsterdam.

5. **A Topographical Map of the North Part of New York Island**, exhibiting the Plan of Fort Washington, now Fort Knyphausen, with the Rebels lines to the southward, which were forced by the Troops under the Command of the Rt. Honble. Earl Percy on the 16th Nov., 1776, and surveyed immediately after by order of his lordship. By Claude Joseph Sauthier. To which is added the Attack made to the North by the Hessians. Surveyed by the order of Lieut. Genl. Knyphausen.

Published by permission of the Rt. Honble. Commissioners of Trade and Plantations, by Wm. Faden, 1777.

6. **Map of a part of America.** Published towards the end of the seventeenth century. 1673. Hugo Allard, excut.

Hugo Allard was a Dutch portrait engraver, his principal portrait being that of Adrian Pau. There is a landscape by him

dated 1696. It is the opinion of Asher that the original engraving for the view on Hugo Allard's map was made by the celebrated artist, Romeyn de Hooge, who was born at the Hague in 1646.

7. Map of the Original Grants of village lots from the Dutch West India Company to the inhabitants of New Amsterdam (now New York) lying below the present line of Wall Street. Grants commencing A.D. 1642.

8. Origin of Steam Navigation. "Honor to Whom Honor is Due." A View of Collect Pond and its vicinity in the City of New York, 1793.

9. Map. Danckers. Entitled "Novi Belgii, Novaeque Angliae nec nou Pennsylvaniae et Partis Virginiae tabula."

10. L'Amerique Septentrionale et Meridionale divisée en ses principales parties, ou sont distingués les vus des autres les Estats suivant qu'ils appartiennent presentement aux François, Castillans, Portugais, Anglois, Suedois, Danois, Hollandois, etc. Dressé sur les Memoires les plus Nouveaux par G. Valck.

Gerard Valck, a celebrated portrait painter, 1626-1720. Father-in-law and business partner of Peter Schenck.

11. Map and a Southwest View of the City of New York. Taken from the Governour's Island at*

Plan of the City of New York in North America Surveyed in the Years 1766 and 1767, by *B. Ratzer*, Lieut. in His Majestie's Sixtieth or Royal American Regiment. It is dedicated to His Excellency Sir Henry Moore, Bart., Capt. Genl. and Govr. in Chief in and over His Majestie's Provinces in New York.

London: Published according to Act of Parliament, January 12, 1776, by Jefferys & Faden, corner of St. Martin's Lane, Charing Cross.

The star refers to one upon the plan to which the view is appended which marks the exact spot from which the picture was taken.

12. Gun which belonged to Lewis Morris, father of Lewis Morris the Signer.

13. Cane which belonged to Lewis Morris, father of Lewis Morris the Signer.

14-15. Portrait of Governor Clinton, in chalk by St. Memin. **Portrait of Mrs. Clinton**, wife of Gov. Clinton, in chalk by St. Memin.

A Series of New York Views

Showing the Development of the City in Colonial Times.

16. Novum Amsterodamum. 1671. From "Beschryving van America," by Arnoldus Montanus.

It is curious to note the fact that the wind-mill, flag-staff, church, gallows-tree and swinging gibbet are prominent features of the landscape. The Church of St. Nicholas, with its long, sloping roof of slate, can be distinctly seen above the walls of the Fort. This Fort was staked out about 1625 by Master Kryn Frederycke, an engineer. It was called Fort Amscel or Amsterdam until 1664, afterwards Fort James and finally Fort George. It was "capable to lodge three hundred souldiers and officers." The first fort was probably stockadoes, with block houses, but it was a good stone fort when taken by the English in 1664. It was the principal landmark of our city for one hundred and fifty years. A tablet at No. 4 Bowling Green marks its site.

17. Nieu Amsterdam at New York, 1680? By Carolus Allard.

A large two-masted, square-rigged vessel occupies the right hand foreground. A smaller vessel is anchored nearer shore.

Carolus Allard was a copper-plate engraver at Amsterdam, also a printseller and publisher. He flourished toward the close of the seventeenth and in the beginning of the eighteenth century.

18. Nieu Amsterdam at New Yorck, 1690? A view of the city and in the foreground two figures, male and female, which occupy about one-half the picture.

Carolus Allard, exc. cum Privil. ord. Holl, et.

19. Nieu Amsterdam, after Peter Schenck. "New Amsterdam, a small city on Manhattan Island, New Holland, North America, now called New York and is a part of the English colonies about 1667."

Two high-poooped, long-beaked Dutch Trading vessels in the Harbour well to the foreground. The Church of St. Nicholas and numerous wooden houses in plain view, with the inevitable windmill off to the left.

Peter Schenck was a German engraver, publisher and art collector—died 1715.

20. Southwest view of Fort George with the City of New York. One of the most picturesque views of the city which exhibits the Fort.

Published in William Russell's History of the War in America, 1788.

PICTURES AND BROADSIDE OF THE FOUR INDIAN KINGS

21. **Keyser Vande Ses Natiën**, by Pet. Schenck. One of the four Indian Kings who on ye 2 May, 1710, were admitted by her Majesty ye Queen of Great Britany, fraying assistance against ye French in America between New England and Canada, etc.

21a. **Coning Vande Maquas**, alias Coning Brant, by Pet. Schenck.

21b. **Coning Vande Rivier Volkeren**, by Pet. Schenck.

21c. **On Nee Yeath Foss no Riow**, King of Granajah Hore, vulgr. King John.

Sold by J. Faber. London: Engraved and ex., 1720.

22-23. **Two Wooden Vultures**, taken from a Spanish privateer in the Revolutionary war.

First Cupboard

Lowestoft

This ware was made in China. It is a hard vitreous porcelain of a blue white color. The shapes are taken from English earthen ware sent to China to be copied. The raw material, kaolin and petunse, is found in large quantities in China. There is none in England.

Lowestoft is a seaport town on the eastern coast of England. Here, in the eighteenth century, ships from the Orient brought their cargoes of Chinese wares, thence they were distributed all over England and America, so people called their dinner services and tea-sets "Lowestoft," not knowing or caring where they were made. At Lowestoft, during this period, there was a pottery at which was made a small quantity of "soft paste" wares, similar to others of English manufacture. In 1902, however, a discovery of pottery moulds and a large quantity of bits of porcelain was made on the site of the original pottery and from these moulds and fragments, the real character of the Lowestoft paste, decorations and shapes became known.

No Oriental bits or shapes were found.

FIRST AND THIRD SHELVES

Oriental Ware called "Lowestoft"

SECOND SHELF

This Tea Set of Lowestoft China was given as a wedding gift to General and Mrs. Hezekiah Barnes in 1780. He was General in the Colonial Army, twenty-one years old at the time and she was sixteen.

FOURTH SHELF

Chinese Porcelain. Part of a dinner set marked with monogram, belonging to Governor De Witt Clinton; presented to him while mayor, by the citizens of New York.

Second Cupboard

FIRST SHELF

1. Tea pot, English copper lustre decorated.
2. Tea pot, printed design. Staffordshire.
3. Tea pot, sprig pattern. Staffordshire.
4. Gravy boat, printed Washington's head, semi-porcelain, made at Creil in Oine, France. Established by English potters in 1775.
5. Tea pot, English silver lustre.

SECOND SHELF

6. Plate, Leeds reticulated border.
7. Plate, Wedgwood medallion transfer.
8. Plate, Leeds reticulated border.
9. Coffee pot, Staffordshire sprig pattern.
10. Tea pot, Whieldon.
11. Cup, Whieldon.
12. Tea pot, Whieldon. Cauliflower pattern.
13. Coffee pot, Bottcher, German potter 1706-10. Lacquered and gilt.
14. Tea pot, Whieldon reticulated border.
15. Tea caddy, Whieldon tortoise shell.
16. Tea pot, Whieldon.

THIRD SHELF

17. Plate, Spode.
18. Plate, decorated Leeds.
19. Blue plate, Davenport.
20. Medallion. Early Whieldon. Adam design.
21. Plate, raised decorated Leeds.
22. Plate, Spode.
23. Pitcher, Leeds.
24. Gravy boat, Leeds.
25. Mug, decorated Staffordshire.
26. Tea pot, Staffordshire.
27. Tea caddy, Whieldon. Marked on the bottom "Elizabeth Perssons," 1772.
28. Two figures, Staffordshire.
29. Gravy boat, salt glaze.

- 30. Mug (enameled), salt glaze.
- 31.
- 32.
- 33. Mug, Whieldon.
- 35. Mug, white, Leeds.

FOURTH SHELF

- 32. Tea cup, English soft paste, Lowestoft.
- 33. Pitcher, English soft paste, Lowestoft.
- 34. Mustard pot, Wedgwood.
- 35. Egg cup, Wedgwood.
- 36. Dish and Salad set, Leeds.
- 37. Blue Cup and Saucer. Late Spode.
- 38. Pink and Gold Cup and Saucer. Late Spode.
- 39. Mug, Chinese.
- 40. Shell, Leeds.
- 41. Plate, Leeds reticulated.
- 42. Platter, Leeds.
- 43. Whieldon, by Voyez Modler.
- 44.
- 45. Whieldon.
- 46. Whieldon. Tortoise shell.

Wedgwood

(In Case III)

Medallion Portraits of Illustrious Personages

Josiah Wedgwood was born in Staffordshire, England, in 1730; died 1795.

His father, a potter, died in 1739, and Josiah in his ninth year had to leave school and go to work in the pottery.

Wedgwood always paid great attention to improving the clays and finally invented his celebrated Jasperware. This ware is of an extremely delicate texture, its ingredients; sulphate of baryta, carbonate of baryta, clay and flint.

Possessed of a profound understanding of character, a remarkable faculty for criticism of his models and untiring in securing perfection of detail, Wedgwood's faithful likenesses are endowed with a subtle and inimitable charm.

Notwithstanding his intense sympathy with America during the struggle for constitutional liberty, Wedgwood was high in favor with King George and had the appointment of "Potter to

the Queen." It is of interest that he at one time endeavored to import clay from South Carolina for use in his pottery. Wedgwood early recognized that the preliminary skirmishes of the battle in defence of the British Constitution were taking place in America, as the following letter, written to Bentley in 1767, goes to prove:

"Mr. Grenville and his party seem determin'd to *Conquer England in America* I believe. If the Americans do not comply with their demands respecting the quartering of soldiers, the Alternative, I am told, is to be The Suspension of the Legislative power in America. I tell them the Americans will then make Laws for themselves & if we continue our Policy—for us too in a very short time. But I have very little time at present to bestow upon Politicks; if we must all be driven to America, you and I shall do very well amongst the Cherokees."

Much of his success was due to the active assistance and strong sympathy with his ideals displayed by his wife. He wrote of her: "Sally is my chief helpmate in this as well as other things." She kept his secret formulas, and often mixed the clays for the Jasperware and doled them out to the proper workmen. His great love for classic history and desire to imitate the cameos of Greece and Rome resulted in their spending long evenings studying and reading the classics aloud. After making use of the potter's clay to perpetuate the portraits of hundreds of personages, many of them men active in public life at the time of the American Revolution, and having amassed a considerable fortune, Wedgwood retired from business at the age of sixty-two, three years before his death.

1. **Prince Adolphus Frederick.** Duke of Cambridge. Seventh son of George III. 1774–1850.

He was very popular; noted for his earnestness, sincerity and peace-loving qualities. An indefatigable supporter of public charities, he was recognized as the link between the throne and the people.

2. **Prince Edward Augustus.** Duke of Kent and Strathern. Fourth son of George III. 1767–1820.

He married in 1818 Victoria Mary Louisa, widow of the Prince of Leiningen. They had one daughter, afterwards Queen Victoria. Though rather unpopular in the army, he was the first to abandon flogging and establish a regimental school.

3. **Prince Ernest Augustus.** Duke of Cumberland. Fifth son of George III. Afterwards King of Hanover. 1771–1851.

Had a high military reputation, being conspicuous for personal bravery in the field. Of all the sons of George III, he was the one who had the strongest will, the best intellect and greatest courage. Died at his palace of Herrenhausen, aged eighty, amidst the universal grief of his people.

4. **Prince William Henry.** Duke of Clarence. Third son of George III. Afterwards William IV. 1765–1837.

Destined from childhood to serve in the navy, when he was but fourteen George III wrote of him: "He neither wants resolution nor cheerfulness, which seem necessary ingredients for those who enter into that noble profession." When he was sixteen years of age and serving as midshipman in the British Navy, he was for some time on the coast of the North American Colonies and he passed the winter of 1781 and 1782 in the City of New York. He took part in the relief of Gibraltar in 1780 under Sir Charles Hardy. He became Lord High Admiral in 1827 and King of England in 1830.

5. Prince Frederick. Duke of York. Second son of George III. 1763-1827.

He was the favorite son of his father. He made an unhappy marriage with a Prussian princess in 1791, from whom he soon separated. He founded the Duke of York's School for the sons of Soldiers, Chelsea, London.

6. Prince of Wales. Afterwards George IV. 1762-1830.

It is said his word was worthless, his courage doubtful. Though clever and versatile, his character was such that not even his own partisans could respect or defend it.

7. Charlotte Augusta Matilda. Princess Royal of England. Daughter of George III. 1766-1828.

Princess Royal of Great Britain and Ireland, she became by marriage Queen of Würtemberg. Left a widow in 1816, she suffered from a serious malady for years until her death in 1828 at Ludwigsburg.

8. Queen Charlotte. Consort of George III. 1744-1818.

After a formal betrothal, she landed in England in 1761, and saw her future husband for the first time at St. James. She had no interest in nor influence over English politics; but during this long reign court life was perfectly decorous.

9. George III. 1738-1820.

George William Frederick succeeded to the Throne of England in 1760. Although in 1783 he had virtually refused to receive a Minister from the United States, he consented to receive John Adams in 1785. He behaved with dignity during the interview, though he showed that he was affected by it and assured the Minister that as he had been the last to consent to the separation, so he would be the first to meet the friendship of the United States as an independent power.

10. George III of England. 1738-1820.

11. George II. 1683-1760.

George Augustus, King of Great Britain and Ireland, only son of George I and Sophia Dorothea. His favorite study was German genealogy. He was completely swayed by his wife in affairs of state. One of the notorious pasquinades of the day said: "We know 'tis Queen Caroline, not you that reigns."

12. George I. 1660-1727.
George Lewis, King of Great Britain and Ireland and Elector of Hanover.

Unlovable in himself and in his chosen surroundings, he is said, in some degree, to have justified the boast that it was "the maxim of his family to reward their friends, do justice to their enemies and fear none but God."

13. Sarah Wedgwood. Wife of Josiah Wedgwood. 1734-1815.

Daughter of Richard Wedgwood of Cheshire. Mrs. Wedgwood and her husband were cousins in the third degree. They were married in 1764 and had seven children.

14. Josiah Wedgwood. 1730-1795.

15. Josiah Wedgwood. 1730-1795.

16. Josiah Wedgwood. 1730-1795.

17. Josiah Wedgwood. 1730-1795.

18. Thomas Bentley. 1730-1780.

Of Trinity College, Cambridge. Friend and partner of Josiah Wedgwood (in white and in basalt).

19. Reverend William Willet. 1699-1778.

A Unitarian clergyman who married Wedgwood's favorite sister. Wedgwood said of this portrait, "A stronger likeness can scarcely be conceived. You may keep it as the Shadow of a good Man who is marching with hasty strides towards the Land of Forgetfulness."

20. David Garrick. 1716-1779.

A famous English actor. First appearance in Drury Lane in 1742. Possessed in a preëminent degree the art of imitating the physiognomy of others and the expression of various emotions. Among his intimate friends were Lord Chatham, Lord Lyttleton and Dr. Johnson. Buried beside Shakespeare in Westminster Abbey.

21. Charles Cornwallis. Earl and Marquis. Commonly known as Lord Cornwallis. 1738-1805.

Joined the English army in 1776 as Major-General, and took part in the battles of Brandywine and Germantown. He finally surrendered with about eight thousand men to Washington at Yorktown in 1781. Generally admitted to have been by far the ablest British General who took part in the war of the American Revolution. He was successively Lord Lieutenant of Ireland and Governor-General of India, where he died at Ghazapore in 1805.

22. Sir Joshua Reynolds. 1723-1792.

The most celebrated portrait painter England has produced. He was the son of a clergyman, the Rev. Samuel Reynolds. He was never married. Made President of the Royal Academy in 1768 and knighted on that occasion. In 1760 his price was one hundred guineas for a whole-length portrait.

With Dr. Johnson he founded The Literary Club, composed of twelve members, among whom were Burke and Goldsmith.

23. Sir William Herschel. 1738-1822.

One of the greatest astronomers that any age or nation ever produced.

24. Sir Geoffrey Amherst. 1717-1797.

An English General usually called Lord Amherst. He took part in the capture of Ticonderoga from the French in 1759, also in the conquest of Canada in 1760. In 1763 he was appointed Governor of Virginia. (By James Tassie.)

25. Edmund Burke. 1730-1797.

Orator, statesman and philanthropist. Born in Dublin. Married in 1757 Mary Jane Nugent, daughter of a physician of Bath. He was accustomed to say that "every care vanished the moment he entered under his own roof." Impeached Warren Hastings in Parliament, 1788.

His style, embodying rare majesty of thought and expression, is said to be more grandly beautiful than that attained by any other Englishman with tongue or pen. Grief occasioned by the death of his only son, Richard, materially shortened his life. He died at the age of sixty-seven. (By James Tassie.)

26. Benjamin Franklin. 1706-1790.

Eminent American philosopher and statesman. Born in Boston, Mass. As a philosopher he was remarkable for simplicity of character and practical common sense. He deemed nothing unworthy of attention which concerned the interest or happiness of mankind. His great merit in action consisted in the clearness with which he saw his object and his bold and steady pursuit of it by the surest and shortest road. In 1730 he married Deborah Read, of Philadelphia. In introducing a motion for daily prayers at the Convention of 1787, he said: "The longer I live the more convincing proofs I see that God governs the affairs of men." He died in Philadelphia at the age of eighty-four. (By James Tassie.)

27. Lord Mansfield. Born at Perth, Scotland, 1704; died 1793.

William Murray, Earl of Mansfield. Lord Chief Justice, celebrated lawyer and orator. He presided with honor over the Court of King's Bench for more than thirty years. He possessed all the essential qualities that go to form a great judge.

(This is not by Wedgwood, but by James Tassie, and made of a glass composition.)

28. Earl of Chatham. 1708-1778. (In Battersea enamel.)

William Pitt, Earl of Chatham. English statesman and orator. His play of countenance was wonderful, said to be able to disconcert a hostile orator by a single glance of indignation or scorn. In 1775 he made a brilliant speech on the American War. Alluding to the Boston Port Bill, he said: "You must repeal these acts and you will repeal them. I pledge myself for it that you will repeal them. I stake my reputation on it. I will consent to be taken for an idiot if they are not finally repealed." By many considered the most successful orator and brilliant states-

man England ever produced. He married Hester, daughter of George Grenville, in 1754.

(This is also not by Wedgwood.)

29. Reverend John Wesley. 1703-1791.

Celebrated religious reformer. Founder of the Society of Methodists. Distinguished at Oxford for his skill in logic. His mother, who was versed in Greek and Latin, influenced him in choosing religion as a career. At twenty-three he commenced recording his actions, thoughts and experiences in a diary, which he continued to the end of his life. In 1750 he made an unhappy marriage with a widow of independent fortune from whom he was finally separated in 1771. He possessed a marvelous influence for good. No hardships or dangers were too great for him to undertake in the cause of Christianity. He labored for the lowest classes of humanity and sought to abolish African slavery. He had a rare activity of spirit which was unimpaired by old age. (By Turner.)

30. Marquis de Lafayette. 1757-1834.

Marie Jean Paul de Lafayette. French statesman and patriot, and friend of Washington. The Congress of the United States voted \$200,000 in recompense for his services in the war of independence. He said to Louis Philippe: "You know that I am a Republican and that I regard the Constitution of the United States as the most perfect that ever existed." He lived through various vicissitudes of fortune with a character free from reproach.

31. Lord Eden. 1744-1814.

William Eden, Earl of Auckland. One of the three commissioners sent to America in 1778 to negotiate peace.

32. Lord Nelson. 1758-1805.

Horatio Nelson, Viscount and Vice-Admiral in the British Navy. Mortally wounded in the battle of Trafalgar, 1805, after hoisting the celebrated signal, "England expects that every man will do his duty."

33. Lord Howe. 1726-1799.

Richard, Earl and Admiral of the English Fleet. Brother of General Howe, with whom he was jointly commissioned to treat with the revolted Americans and to take measures for the restoration of peace with the Colonies. Proverbial for his courage and his taciturnity. Described by Walpole as "undaunted as a rock and as silent."

34. Joseph II. 1741-1790.

King of the Romans, Emperor of Germany. Brother of Marie Antoinette; Civil and Ecclesiastical Reformer.

35. Anne. 1665-1714.

Queen of Great Britain and Ireland.

In 1710 gave an audience at Court to five sachems from the Iroquois, who presented her with belts of wampum. They were escorted to England by Colonel Schuyler.

CASE IV

36. Dr. Joseph Priestley. 1733-1804.

Joseph Priestley, LL.D. Theologian and man of science. Discoverer of oxygen. Made many discoveries in electricity. An earnest upholder of America, whither he came in 1794. Intimate with Darwin, Franklin and Wedgwood. Fearless, devout and frank. Toplady said of him: "A man whom I can hold up as a piece of crystal and look through him."

37. Benjamin Franklin. 1706-1790.

After a portrait by Caffieri.

38. Benjamin Franklin. 1706-1790.

After a portrait by Nini.

39. Benjamin Franklin. 1706-1790.

After a portrait by Flaxman.

40. George Washington. 1732-1799.

After an etching by Joseph Wright, son of Mrs. Patience Wright.

"Washington, the brave, the wise, the good. * * * In disaster calm, in success moderate, in all himself. * * * Father of Nations, Friend of Mankind, who when he had won all, renounced all and sought in the bosom of his family and of nature retirement, and in the hope of religion—Immortality." —Tribute to the memory of George Washington written at his grave, Mt. Vernon, 1883, by Dr. Andrew Reed, an English philanthropist.

41. Benjamin Franklin. 1706-1790.

After a model in wax by Patience Wright, the American sculptress, the first American woman noted in art.

42. George Washington. 1732-1799. (Basalt.)

43. François Marie Arouet de Voltaire. 1694-1778.

French critic and author. Said to have exercised a greater influence on the mind of Europe than any other man of his age. Said of himself: "One who does not carry a great name, but can do credit to the one he has."

44. Jean Jacques Rousseau. 1712-1778.

Swiss philosopher and writer.

45. Captain Cook. 1728-1779.

James Cook, circumnavigator. With two ships, the Resolution and the Adventure, he crossed the Antarctic Circle for the first time in 1773.

46. Captain Cook. 1728-1779.

47. Jacob Cats. 1577-1660.

Popular Dutch poet, also lawyer and statesman. Called by the people "Father Cats." Ambassador to England in 1627; Grand Pensionary of Holland in 1636.

48. Egbert Cortenaar. Obit. 1665.

Famous Dutch admiral, killed near Lestoff in 1665.



NO. 54. PIETER HEYN (OR HEIN), 1570-1629. BRAVE DUTCH ADMIRAL

- 49. John De Witt.** 1625-1672.
Eminent Dutch statesman ; Grand Pensionary of Holland. At one time tutor to the Prince of Orange. Foully murdered by an infuriated mob in 1672.
- 50. Cornelius De Witt.** 1623-1672.
Dutch naval officer and statesman. Falsely accused, he fell victim to the rage of the mob, and with his brother was murdered in the prison.
- 51. John Van Olden Barneveldt.** 1549-1619.
Liberal Dutch statesman and Grand Pensionary of Holland. Favoring universal toleration, after the convocation of the Dort Synod, 1618, which condemned the Arminians, Barneveldt was arrested and beheaded.
- 52. Martin H. Van Tromp.** 1597-1653.
Admiral of Holland. One of the ablest seamen of his time; said to have been victor in more than thirty battles.
- 53. Sir Cornelis Van Tromp.** 1629-1691.
Lieutenant-Admiral-General of the United Provinces. Knighted by the King of Denmark as a reward for services rendered him in his war with Sweden.
- 54. Pieter Heyn (or Hein).** 1570-1629.
Brave Dutch admiral, son of a sailor. Killed in a battle in which he had defeated the enemy.
- 55. William Penn.** 1644-1718.
Quaker and founder of Pennsylvania. A stout champion of the right of independent thought and speech in an age of general intolerance.
- 56. Sir Isaac Newton.** 1642-1727.
Natural philosopher, an estimate of whose genius is impossible. Pope composed the celebrated epitaph:
"Nature and Nature's laws lay hid in night:
God said, 'Let Newton be'—and all was light."
- 57. Sir Isaac Newton.** 1642-1727.
- 58. John Locke.** 1632-1704.
Philosopher and student of medicine. Author of the Constitution of South Carolina. Called by John Fell "A Master of Taciturnity." The Latin epitaph over his tomb was written by himself.
- 59. Queen Elizabeth.** 1533-1603.
Elizabeth, Queen of England and Ireland. "The Virgin Queen," who won a position in European politics which none could venture to disregard.
- 60. William Anne Keppel.** 1702-1754.
Second Earl of Albemarle. Lieutenant-General, Governor of Virginia in 1737. He squandered a large fortune and was called by Walpole "The Spendthrift Earl."

61. John Stuart. 1713-1792.

Third Earl of Bute. Few Ministers have been more unpopular. He was intensely disliked by Americans. Was incessantly lampooned and caricatured. Passionately fond of botany, he formed a Botanic Garden at Luton Hoo, his estate in Bedfordshire.

62. Charles Lennox. 1735-1806.

Third Duke of Richmond and Lennox. Statesman.

George III is reported to have said of him, there was no man in his dominions by whom he had been so much offended and no man to whom he was so much indebted. Remarkably handsome, when he married the beautiful daughter of the Earl of Elgin, they were called "the prettiest couple in England."

63. General Robert Monckton. 1726-1782.

Governor of New York 1761.

64. Lord North. 1732-1792.

Frederick North, second Earl of Guilford. English statesman. Chancellor of the Exchequer.

An orator of unflinching tact and great powers of debate. It was on Lord North's motion in 1769 that the Cabinet decided, by a majority of one, to retain Charles Townshend's American Tea Duty. This decision rendered war inevitable.

65. Lord Camden. 1714-1794.

Charles Pratt. First Earl Camden. Statesman. Lord Chancellor. In his maiden speech in the House of Lords, he denounced the passing of the Stamp Act as a breach of the Constitution.

66. George Washington. 1732-1799.

After a medal designed by Voltaire.

67. William Temple Franklin.

Son of the last Royal Governor of New Jersey and grandson of Benjamin Franklin.

68. Louis XVI. 1754-1793.

King of France. Consort of Marie Antoinette. Submitted to his execution with tranquil fortitude. 'Twas said his virtues were better adapted to a private station than a throne.

69. William Franklin. 1731-1813.

Son of Benjamin Franklin. Appointed Governor of New Jersey 1762, of which he was the last "Royal Governor." Joined Sir William Johnson and several fur traders of Philadelphia in a plan for the colonization of the prairies of Illinois.

70. Catherine II. 1729-1796.

Empress of Russia. The history of princes affords few examples of such talents and such force of character on a throne, perverted to the working of so much mischief.

71. John Fothergill, M.D. 1712-1780.

Franklin said of him: "I can hardly conceive that a better man ever existed."

72. Ferdinand I. 1751-1825.

King of the two Sicilies. Younger son of Charles III of Spain. Was detested by his subjects. Married Maria Carolina of Austria, a princess of great ambition and cruelty.

73. Marie Antoinette. 1755-1793.

Queen of France. High spirited, of extraordinary personal charm; during terrible experiences she displayed firmness and dignity. Guillotined 1793.

74. Lord Granville. 1721-1803.

Granville Levison Gower, First Marquis of Stafford. Lord Privy Seal and a Governor of the Charter house. A man of much political influence and great wealth.

75. Earl of Chatham, 1708-1778.

76. Earl of Hillsborough.

Wills Hill. First Marquis of Downshire. Second Viscount Hillsborough. Determined in his opposition to any concessions to America.

77. Charles James Fox. 1749-1806.

He bore the reputation of an honest statesman and a real philanthropist. One of the most accomplished debaters England ever produced.

78. Earl Percy. 1742-1817.

Hugh Percy, Duke of Northumberland. Entered the army and served at Bunker Hill 1775, gaining the rank of General.

79. Henry Dundas. 1740-1811.

Lord Melville. Scottish lawyer and statesman.

80. Charles Jenkinson. 1727-1808.

First Earl of Liverpool. Statesman. Secretary of War under Lord North.

81. Adam Smith. 1723-1790.

Celebrated Scottish philosopher and political economist. An advocate of free trade. Maintained that labor rather than money is the true source of national wealth.

82. Sir Christopher Wren. 1632-1723.

Generally regarded as the greatest of English architects. His masterpiece is St. Paul's Cathedral.

83. Sir William Chambers. 1726-1796.

Architect. Native of Stockholm. Settled in England at an early age. Employed by George III to lay out the Royal Gardens at Kew.

84. Oliver Cromwell. 1599-1658.

"The Protector." Though constantly attacked, the character of Cromwell is popular with the great body of his countrymen. He notified the Colonial Governors in New England that he would send a fleet to America and he called upon them to give their utmost assistance for gaining the Manhattan and other places under the power of the Dutch. In 1654 peace was signed by Cromwell and a defensive league made between the two Republics.

Colonial Governors, Mayors, Autographs and Letters

CASE I

1. Treaty between Governor Minuit and the Aborigines for the sale of Manhattan Island. 1626.

To the first of the four Dutch Governors, Peter Minuit, who arrived in 1626, we owe the purchase of Manhattan Island, bought for the sum of twenty-four dollars paid for in cheap trinkets, implements of husbandry and weapons.

2. The Judgment of Wouter Van Twiller. Governor of New York 1633-1638.

Wouter Van Twiller, dull, wavering and ease-loving, lost the respect of all citizens and was recalled to Holland. He bought Nutten Island in the harbor for his prospective residence, which has been known ever since as "Governor's Island."

3. Peter Stuyvesant. Governor of New York 1647-1664.

Peter Stuyvesant, who followed William Kieft, third Governor, was wise and honest, though despotic. The convention of nineteen delegates, ten Dutch and nine English, who met in New Amsterdam in 1653 to remonstrate against his tyrannous rule, was the first representative government in the State of New York.

4. Sir Edmond Andros. Governor of New York 1674-1677; 1678-1681; 1688.

Colonial Governor of Virginia in 1692. One of the Founders of William and Mary College, which, next to Harvard, is the oldest seat of learning in the United States.

5. Thomas Dongan. Governor of New York 1683-1688.

An Irish Roman Catholic. One of the most popular of the Royal Governors owing to his judicious policy and regard for the rights of the people. Obtained a charter from the King in 1686 confirming to the City of New York all prior grants, liberties and franchises; also a charter for Albany, which was thereupon incorporated as a city. His residence was on Broadway, between Ann Street and Maiden Lane, City of New York.

6. Richard Coote, Earl of Bellomont. Governor of New York 1698-1699; 1700-1701.

By his action the pirate, William Kidd, was seized, convicted and executed. He sympathized strongly with the cause of the French Huguenots in this country, advising the legislature to make provision for their clergymen.

7. Abraham De Peyster. Governor of New York 1701.

Abraham De Peyster served as Mayor of New York for four years, 1691-1695. Was also Treasurer of the Provinces of New York and New Jersey and Chief Justice of the Supreme Court. The house he built in 1700 in Pearl Street, opposite Cedar

Street, City of New York, was afterwards the headquarters of Washington.

8. **William Smith.** Chief Justice of New York 1701.
Acting Governor for a short time.

9. **Edward Hyde, Lord Cornbury.** Afterwards 3d Earl of Clarendon. Governor of New York 1702-1708.

Nephew by marriage of James II.

Dishonest and rapacious. Was removed owing to protests of the colonists.

One of his imbecile freaks was to attire himself like a woman, and thus disguised to patrol the fort in which he lived.

10. **John Lord Lovelace.** Governor of New York 1708-1709.

When he sailed for his post was accompanied by fifty-two families, "poor Palatines," said to have been the first German emigrants to America.

11. **William Burnett.** Governor of New York 1720-1728.

In 1727 he built a fort at Oswego, New York, at his own expense, planting the English flag for the first time on the Lakes.

12. **Rip Van Dam.** Governor of New York 1731-1732.

Petitioned the King for a repeal of the restrictions on commerce. A member of the Provincial Council for nearly thirty years. Had a violent controversy regarding his claim to office and the salary thereto pertaining. Was preparing to support his claim with arms, when England ended the matter by appointing another Lieutenant-Governor.

13. **George Clinton.** Governor of New York 1743-1753; 1777-1795.

His discretion in civil affairs and his military services were of great value to the State. He was Vice-President of the United States from 1805 until his death.

14. **Sir Charles Hardy.** Governor of New York 1755-1757.

Aided Admiral Boscawen in the siege and reduction of Louisburg in 1758.

15. **Cadwallader Colden.** Lieutenant-Governor of New York 1760-1761; 1761-1762; 1763-1765; 1769-1770; 1774-1775.

A Scotch physician who emigrated to America. He was the first Surveyor-General of the Colony of New York and a member of the Provincial Council. Spent much time in the study of the sciences, especially botany, and published a valuable History of the Five Indian Nations of Canada.

16. **The Honorable Robert Monckton.** Major-General. Governor of New York 1761; 1762-1763.

In 1755 drove the French Army out of Nova Scotia. Wounded in Wolfe's expedition against Quebec, in which he was second in command. In 1761 was made Commander-in-Chief of the Province as well as Governor of New York.

17. The Earl of Dunmore. Governor of New York 1770-1771.

A needy Scottish Peer of the House of Murray. Passionate, narrow and unscrupulous in his rapacity.

18. The Right Honorable John Campbell. Earl of Loudoun.

Commanded the British Forces in America, 1756.

19. Officers of High Rank in the English Army.

CASE II

John Cruger. Portrait and autograph. Mayor of New York 1757-1766.

A Stamp. Stamp Act. 1765.

The Stamp Duty imposed varied from two pence to six pounds.

"It met with fierce opposition everywhere. The stamp agents were generally compelled by the 'Sons of Liberty' to resign or destroy their stamps. Many pamphlets were written to oppose the Act, and a dignified Declaration of Rights and Grievances was issued, a formal Address to the King and Petitions to each House of Parliament.

On November first, when it was to go into effect, bells were tolled, flags were placed at half-mast, and newspapers were put in mourning.

On March eighteenth, 1766, after a long and bitter Debate, Parliament repealed the objectionable measure, having previously, however, passed a Declaratory Act asserting the right to bind the Colonies and people of America in all cases whatsoever. By the first of November, the date on which the Stamp Act was to go into effect, the violence of the Sons of Liberty had made the execution of the Act impossible even if stamps could have been had."

Placards were posted on the doors of every public office and at the corners of streets, all of the same tenor: "Pro Patria. The first man that either distributes or makes use of Stamp Paper, let him take Care of his House, Person and Effects. Vox Populi. We dare."

The Stamps reached New York later than the other Colonies. They arrived in the ship "Edward," on Tuesday, October twenty-third. There were ten packages. They had been stored in different parts of the ship, it was said, without the knowledge of the captain. It was advised to hire a sloop to unload the vessel until the packages containing the stamps were reached, but no sloop could be hired at any price, their masters declining the service. So the captains of the King's ships were then requested to remove the cargo.

On the arrival of the "Edward" all the vessels in the Harbour of New York had lowered their colors to signify mourning, lamentation and woe. On October thirty-first the New York Gazette was printed with black head and foot lines, and contained a funeral lamentation on the Death of Liberty.

Annapolis Convention. September 11th, 1786. Continued in session three days.

Egbert Benson, autograph.

James Duane, autograph.

Leonard Gansevoort, autograph.

Alexander Hamilton, portrait and autograph.

Robert Livingston, portrait and autograph.

Members of Albany Convention, 1754.

John Chambers, Chief Justice, autograph.

Joseph Murray, autograph.

William Smith, portrait and autograph.

Justice of the Supreme Court, Province of New York.

MSS. Colonial Governors of New York.

William Burnett, 1720-1778; portrait and autograph.

George Clinton, 1743-1753; portrait and autograph.

James De Lancey, 1757-1760; autograph.

Son of a French Huguenot. Chief Justice of the Supreme Court, later Lieutenant-Governor of the Colony. One of the founders of King's College, now Columbia University.

Cadwallader Colden, 1760-1761-1763, 1769, 1774; autograph.

Lord Dunmore, 1770-1771; autograph.

William Tryon, 1771-1774; autograph.

Lieutenant-Governor of North Carolina in 1764. Transferred to New York in 1771. Was living in Government House at Fort George, near New York City, when it was burned in 1773. The Governor and his wife barely escaped with their lives. He made a large Grant of Land to King's College, now Columbia University. Gave up a civil for a military life in 1778, and was made Major-General in America.

Document. James II, King of England. Portrait and autograph. 1685.

Letter concerning return of stamps, dated 1766, signed John Brettells to John Hughes, Esq.

Bill of Shipment. Dated August 10th, 1765. Signed Richard Buddor.

An Astronomical Diary or Almanack. With Mrs. Macauley's Portrait.

Letter to George Johnstone, Esq. Captain-General and Commander-in-Chief in and over his Majesty's Province of West Florida, Chancellor and Vice-Admiral of the same. Dated 1766.

Letter dated Sept. 13th. 1765-66. Signed John Brettells.

Autograph letter of John Johnson. Mayor, 1714.

Printed Indenture. Signed by

James Hounam

Henry Dufouer

Thomas Marston

Levinus Clarkson

Philip Livingston

Isaac Roosevelt

Richard Sharpe

Theophylact Bache

Dated July 20th, 1772.

Page from New York Almanac, 1773. (Pictorial.)
Showing view of New York City.

Memorandum. Signed Robert Lurting.
Mayor of New York, 1726-1735.

He began in an humble way with sloops and voyages on the Hudson and adjacent inland waters. He finally became a Colonel in the Militia.

Whitehead Hicks. Portrait and autograph.
Mayor of New York, 1766-1776.

Memorandum. Autograph document, signed J. Van Cortlandt.
Mayor of New York, 1710-1711.

Cartoons

Caricatures of Political Events Pertaining to America

CASE I

Plate I. The Bostonians Paying the Excise Man: or, Tarring and Feathering.

London: Printed for Rob't Sayer and J. Bennett, Map and Printsellers, No. 53 Fleet Street, as the Act directs, 31 October, 1774.

Plate II. The Bostonians in Distress.

London: Printed for R. Sayer and J. Bennett, Map and Printsellers, No. 53 Fleet Street, as the Act directs, 19 November, 1774.

Plate III. The Patriotic Barber of New York.

London: Printed for R. Sayer and J. Bennett, Map and Printsellers, No. 53 Fleet Street, as the Act directs, 12 February, 1775.

Plate IV. The Alternative of Williams-Burg.

London: Printed for R. Sayer and J. Bennett, No. 53 Fleet Street, as the Act directs, 16 February, 1775.

Plate V. A Society of Patriotic Ladies.

Edenton in at North Carolina.

Plate VI. A New Method of Macarony Making as Practised at Boston.

For the Custom House officers landing the Tea,
They Tarr'd him, and Feathered him, just as you see.
And they drenched him so well, both behind and before,
That he begged, for God's sake, they would drench him no more.

CASE II

Goody Bull or the Second Part of the Repeal—

The world turned upside down,—or
The old woman taught wisdom.

Wonderful Magazine. Portrait of M. Wright of New York, The Remarkable Modeller in Wax.

Published by C. Johnson.

CASE III

The Wheel of Fortune or England in Tears.

An attempt to land a bishop in America 1768.

Britons Glory or Admiral Triumphant.

The Loaded Boot or Scotch Preferment in Motion or
Monsieu will you vive.

The Caledonian March and Embarkation.

The Tomb Stone.

Here lieth the body of William, Duke of Cumberland,
lamented by his country which he twice saved.

American stamps, extension of excise, etc., etc., etc.

Printed for Mr. Smith, and sold at the Woolpack in Long Acre, near Drury Lane, London, 1755.

Liberty Triumphant or the Downfall of Oppression.

The State of the Nation. An. Dom. 1765.

**The Deplorable State of America or Sc——h Govern-
ment.**

British Resentment or the French fairly coopt at Louisberg.

L. Bontard mot et Delin. Published according to Act of Parliament, 25 September, 1755. J. June, Sculp.

CASE IV

**The Grand Monarque in a Fright, or the British Lion
rous'd from his Lethargy.**

France trembles at the British Lion's Roar
And Lewis' treach'rous wiles deceive no more:
Th' amusing Treaty he revives in vain,
Whilst rising Forts extend th' insidious Chain.

Perfidious Prince, thy Fraudful double Face
In distant climes shall publish thy Disgrace,
From where the Orient spreads the purple Dawn
To where the curtains of the west are drawn.

In truth the Indians thy Defeat shall sound,
And British Valour with Success be crown'd:
In either Hemisphere these Notes shall ring,
So fares the proud, the Treaty-breaking King.

Published April fourth, 1755, according to Act of Parliament,
and sold by the Printsellers of London and Westminster.
Price, 6d.

The European State Jockies.

Running a Heat for the Ballance of Power, with various designs adapted for the year 1740. Invented by the President of the Political Society and inscribed to the members thereof. Published according to Act of Parliament, 25 March, 1740.

I. The European Race.

Heat 1st, Anno Dom. MDCCXXXVII.

Humbly inscribed to ye Politicians of Great Britain, France, Spain, Russia, Turkey, Germany, Italy, Holland and Corsica by their most obedient servant, an Englishman.

I returned and saw under the sun, that the race is not to the swift, nor the Battle to the strong, neither yet Bread to the wise, nor yet Riches to men of understanding, nor yet favour to men of skill, but time and chance appeneth to them all.

Ecclesiastes, the 9th verse, the 11th c.

Published according to act of Parliament, Oct. 10, 1737.

II. The European Race.

Published according to act of Parliament, Sept. 4, 1738.

III. The European Race.

Heat 3rd, Anno Dom. MDCCXXXIX.

Inscribed to the Greatest Politician in Europe. By his most obedient and humble servant, an Englishman.

Behold the former things are come to pass and new things do I declare before they spring forth I tell you of them.

Isaiah the 42, verse the 9.

Halls and Stairs

1. Old Dutch clock. From Breck in Waterland. Holland.

2. Photograph of Saint Ethelburga the Virgin, within Bishopgate, London.

"The existence of the Church of Saint Ethelburga, dedicated to the daughters of King Ethelbert, King of Kent (A. D. 552-616), XIV century.

It was noted for its short services for city men, before proceeding on their voyages and upon their return therefrom.

To this quaint old-time place of worship Hudson and his crew, we are told, repaired to partake of the Sacrament before sailing under the direction of the "Muscovy" or Russian Company (the first joint stock company, says John Fiske, formed by the English for the prosecution of maritime trade and colonization, incorporated February, 1533), to attempt a northwest passage to Asia.

Hudson made two fruitless voyages in the years 1607 and 1608, in prosecution of this quest; but in making them he approached nearer to the Pole than any man before him and established his name and fame as a successful navigator and courageous explorer.

In 1609 he entered the service of the Dutch East India Company, and on the fourth of April of that year set sail in the "Half Moon," on the Zuyder Zee. On the 3rd of September he dropped anchor somewhere, Fiske says, in his "Dutch and Quaker Colonies in America," between Sandy Hook and Staten Island. Mr. Fiske concludes his chapter on Henry Hudson, by according him the credit of starting two immense industries, the Spitzbergen whale fisheries and the Hudson Bay fur trade, as well as that of bringing the Dutch to Manhattan. W. L. A."

3. **Portrait of Robert Livingston.** First Lord of the Manor, 1654-1723. Copy.

4. **An old oil painting,** representing Peter Stuyvesant and his army.

CASE I

Collection of small articles of dress and ornament worn in the 17th and 18th centuries.

CASE II

Contains wearing apparel of the 18th century. A coat and waistcoat worn by Henry Cruger, M. P., while advocating the freedom of the Colonies in the Parliament of George III.

Court dress of Henry Cruger, M. P., brought from Bristol, England, in the ship Harbinger, August 31, 1786.

Silk brocaded gown, worn by a colonial dame born in 1755.

Part of a collection of colonial bandboxes.

5 and 6. **Two photographs of the Rhinelander sugar house,** built in 1761.

7. **Dutch Kas, or painted cupboard,** with quaint designs in fruit and flowers in shades of gray. A long drawer on side-runners and behind the doors are wide shelves. These Kasses are made to separate in three parts, the heavy cornice lifts off, and the frame and drawer are separate from the cupboard proper. 1656.

Though the New York inventory records speak of "plain cupboards," "great cupboards," "Holland cupboards," "walnut, cedar and painted cupboards," search has not revealed a single oak piece or cupboard in any way resembling the Court and Livery cupboards of New England; the front feet only are ball shape, the rear ones straight and slender. Description and illustration in L. V. Lockwood's "Colonial Furniture in America."

FIRE BUCKETS

Two fire buckets. Marked, O. Wolcott, 2 and 3.

Fire buckets were in general use at the opening of the XVIIIth century. They were passed in a line from hand to hand,

and when not thus in service were kept hanging in a place convenient for the moment of need.

Societies were formed for mutual assistance, each member usually possessing two buckets, marked with his name and that of his society, and agreeing to repair with them to all fires. Large bags, similarly marked, were often added for preservation of menaced articles of value.

SOUTH-EAST BEDROOM

1. **Ornamental gilt and carved wood mirror.** Adam. About 1780.

2. **"Pembroke Table."** Two drawers, curved stretches, with square center, two drop leaves.

3. **Hand warmer.** Glazed pottery. Book design.

4. **Mahogany tilt-top, tripod stand.** About 1790. Sheraton design.

5. **Turned chair—leather back and seat.** Rare design. 1700—after cane period.

6. **Six-legged High-boy.** Upper and lower parts of different periods. Upper section belongs to the early form of bandy-legged high-boys; the development of high-boys characteristic of America—though the term "high-boys" was never used in the records. "Chest of drawers and table." And in the New York inventories after the chest of drawers mention is made of a table of the same wood. "Chest of drawers on a frame" first met with in New York records in 1689.

The introduction of these chests of drawers on high legs or frames marks the discontinuance of the use of oak, and the massive style seen in the chests, and early chests of drawers, was no longer followed.

England abandoned the high form for a low form known as the French commode.

7. **Queen Anne chair.** Early form, rush seat. 1710-20.

8. **Heppelwhite—commode, or night table—inlaid, small brass drop handle to drawer, and large brass "Prince of Wales" handle in lower part.**

9. **Medicine chest.** With nearly complete outfit of bottles, pair of scales, glass pestle and mortar and other items. 18th century.

10. **Long mahogany framed mirror.** Queen Anne. Curving of upper inside edge indicative of an early date.

11-12. **Two Davenport pottery bulb pots.**

13. **Mahogany candle stand?** Square braces.

14. **Mahogany four-post bedstead.** Empire style. 1800-1810.

15. Hogarth chair. Fiddle back; shell carving on the knees and in center of top rail, ball and claw feet. Made up of ogee curves.

16. Cradle. Mahogany, with top. Two styles of cradles have been found in this country dating before 1700—one swinging between uprights which stood firm upon the floor, the other swinging on short rockers.

17. Mahogany chair. Dutch style, ball and claw feet. 1780.

18. High chest. Two drawers—made of white wood with red stain, in original condition—brasses fastened to drawer by looped wire passed through and bent in middle. Double mouldings. Date about 1700.

19. Heppelwhite—corner Wash stand. One drawer, brass knobs. Toilet set—blue and white English pottery. Four pieces.

20. Copper warming pan.

21. Brass foot stove, with pierced work handle.

22. Brass and iron Hodplate warmer.

23. Brass hand stove. Open work. Two handles and four brass feet.

24. Mirror. Mahogany, inlaid frame, carved gilt and wood bird ornament, swan neck cornice on top, with pheasant. Battersea mirror knobs. Rare design.

25. Embroidered sampler. Date 1745.

26. Decorated Staffordshire bulb pot.

27. Whieldon flour pots with saucers.

28. Lowestoft vase with cover. One of a five set of garniture.

29. Lowestoft bottle.

30–31–32. Whieldon pottery birds.

33–34. Pair of silhouettes on wood. Mahogany frames. Very rare.

SECOND STORY—SOUTH-EAST ROOM

35. Curious quilt. Embroidered in crewels in the style of the Cheshire wall hangings. England.
Supposed to be the work of a member of a Huguenot family of New York. Early XVIIIth century.

36. Large bed spread. Said to have been originally owned by William Penn.

Mirrors

The date of a mirror is hard to determine. They cannot be identified by the style of a given period with the same accuracy as furniture. In England mirrors were first made at Lambeth in 1673. Venice had practically supplied the whole world for the previous century. Throughout the colonies the early records mention looking-glasses of such low value that probably hand glasses were meant, after 1680 their value greatly increased. Between 1720 and 1740 the frames became similar to the published designs by English architects for mantel-pieces. The broken arch cornice was extensively used on mirrors of the Queen Anne period. The urn greatly assists in placing the date not only of any piece of furniture in which it was used, but in determining the date of mirrors. Chippendale's urn was egg-shaped, with heavier drapery than the one of Queen Anne's day. Those popular in the time of Heppelwhite are without drapery and either laterally or longitudinally elongated. Lockwood sums it up as follows: "The chief characteristics to be noted in mirrors dating between 1700 and 1750 are the mirror in two sections joined by simply lapping the glass, the waiving outline of the mirror in the upper section, the ornaments of wood instead of plaster and wire, and the style of urn."

Chairs

The 17th century furniture is still to be found in New England and New York, but has entirely disappeared from the South.

In the latter part of the 16th century and early in the 17th was the rush-bottomed chair, nearly every part of which was of turned wood. This turned work lasted for nearly two centuries, to a greater or less degree, and is of much interest to Americans, as the first furniture that came to the Colonies was of this order. Lockwood gives us three styles to the period of 1620 and 1660. The turned chair with its spindles differing in design of beauty according to their elaboration.

At the Connecticut Historical Society is a turned chair considered to be one of the oldest in this country and assigned to the early 16th century.

At Pilgrim Hall, Plymouth, are to be found Elder Brewster's and Governor Carver's chairs, which, according to tradition, were brought over in the Mayflower. The latter chair originally had a double row of spindles similar to the back about the legs between the braces. Both chairs originally with rush seats.

Chairs with large turned posts, one leg in the back and two in front, having triangular seats, were also made, but not common to this country. A well-known specimen of this kind is the "Harvard College Chair."

The Wainscott Chair, made of oak, high back and arms, and heavy underbracing near the floor, was usually carved. Sometimes it matched the wainscotting of the room, and showed the

same design as the chests and cupboards of the period. The chair-table, though perfectly plain, is another example of the period. Its arms and underbracing mark relationship to the Wainscott type.

The leather modification of the Wainscott is of Italian design, coming to England through Holland. They are mentioned at Plymouth as early as 1643. Square back, and seat covered with leather, often studded with brass nails, underbracing at first heavy and plain, later turned. The Spanish leather chairs are of a later date and totally different style.

The carved frame chairs, with cane seats and backs, likewise came from Holland and were very plentiful in England at the end of the 17th century. They do not appear in the inventories of this country until that date, and were of two styles, Flemish and Spanish. In the former we have the scroll foot, which generally turns outward, the carved back suggesting the splat, as it is separate from the upright posts. The wood of both the Flemish and Spanish chairs was either walnut, maple, beech, or occasionally oak. The Spanish style shows the solid back, with legs turned, and the foot not a scroll but of a distinct style known as the Spanish foot—broad, turning slightly outward and fluted.

The Netherlands were more advanced in decorative arts than England, and with William and Mary came a Dutch development of Italian and later French influence. The cabriole leg began its reign with Dutch feet and later their modification, the ball and claw; the wide flat splat, broad seat, shell ornaments carved on knee and at the center of seat in front, and center of top of back, were sometimes called Queen Anne chairs. From 1700 to 1750 we have the slat-back and bannister-back, used in cottages and survivors of the turned chair; substituting the slats for spindles and commonly known as "three-back," "four-back" and "five-back," the last is most often found in New England. The bannister-back has also turned legs and uprights, and sometimes arms, occasionally with carving. In place of the horizontal slats there were spindles, usually four, rounded in front and flat in the back—these two types are generally painted black and have rush seats. The round-about or corner chair was so arranged that a leg came in the middle of the front and back.

The universal Windsor chairs were made in this country as early as 1725, and as early as Queen Anne's time in England; they were the every-day chair of the period and still survive as piazza and kitchen chairs of to-day. The American Windsor differs from the English in that the latter usually has the solid or pierced splat in the center of the back with the spindles on either side—and the American in its various forms, has straight spindles across the back, sometimes with a comb-like extension on top for a head rest; the seats of solid wood, and the legs and underbraces turned.

Windsor chairs were made with or without arms. Those with the end of the arms carved like a closed or open hand are much sought after. There were also those with the curve of the back bent into the arms, and the back supported by two spindle braces

fastened into an extension of the seat; and lastly the Windsor writing chair with its one wide arm.

Oak characterized the Jacobean period; walnut, Queen Anne; mahogany that of Chippendale, Heppelwhite and Sheraton.

About 1740 cabinet makers began to publish books of design of such merit, that the style was no longer known by the name of the sovereign in whose reign it was introduced but after its originator or chief designer.

William Jones published one of the first books on interiors and furniture in 1739. In 1745 Abraham Swan—as Helen Candee Wheeler has so happily expressed it—“interpreted in book form, the rococo grafted on the English square construction, illustrating delightfully the change of a decorative thought as it passes through an alien intelligence.” Chippendale’s “Gentleman’s and Cabinet Maker’s Director” published in 1753, with its preface by Samuel Johnson, has no designs for chairs with ball or claw feet—the French foot is constantly repeated—tradition, however, ascribes many of the former make to him, and Lockwood offers the explanation that “he made what was desired, to order.”

As a rule the English Chippendale chairs are larger and heavier than the American and excel in design and workmanship. His style depends for enrichment upon carving, never upon inlay nor painting. Though mahogany is so closely associated with Chippendale, the Dutch used the wood in 1660, and in New York inventories it is mentioned in 1693, and in Philadelphia, 1708. Chippendale’s ideas were drawn from the French, by the style in vogue when Louis XV reigned; from the Dutch, as shown by his adaptation of the bandy leg, the splat, the broad seat, and shell ornamentation of Queen Anne’s period, and from Gothic and Chinese styles. All these were blended, and produced a result that was distinctively English, and might truly be called original.

Lockwood illustrates in his “Colonial Furniture” the backs of the different styles of chairs, that we may with a degree of accuracy place the date and cabinet-maker under which they fall.

In a *Dutch* chair the top curves down to the upright pieces forming the back, so that they appear to be one piece.

Chippendale.—The top rail is bow shape, and the ends of the top curve up instead of down, and the center is a rising curve.

Heppelwhite.—The back is always either heart, shield or oval in shape.

Sheraton.—Rectangular in shape, the upper edge often raised in the center, and sometimes curved instead of straight. The splat forming the back is never simple, neither does it join the seat, but is supported by a cross rail.

Variations must be allowed in all these designs.

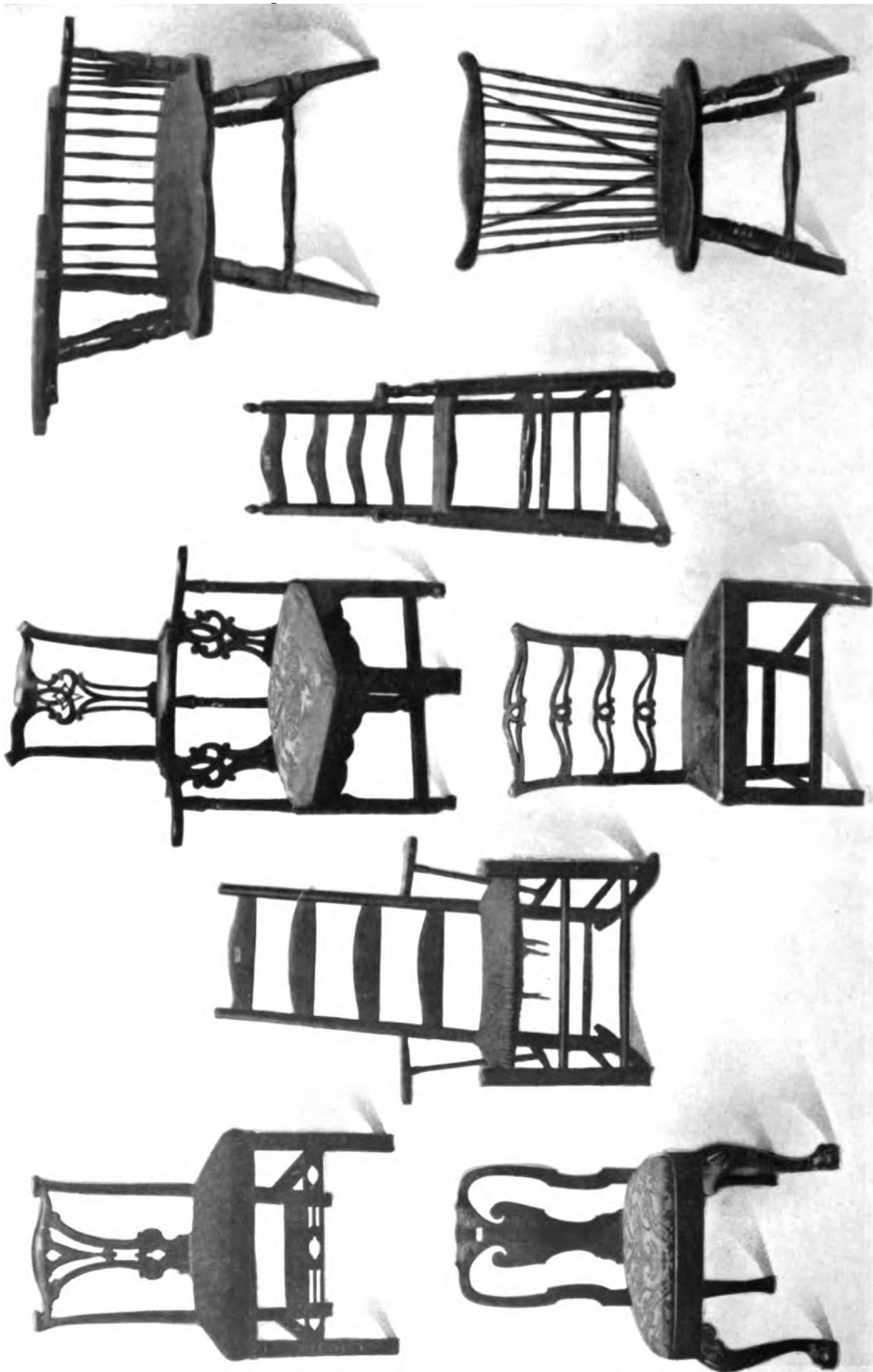
SECOND STORY—NORTH-EAST ROOM

1. Gate-legged table.
2. Mirror. Cut work frame. About 1780.
3. Sofa. Carved claw feet. Empire. Originally in Van Cortlandt House.

NO. 22. WASHINGTON ROOM
CHAIR, CHIPPENDALE STYLE,
SHOWING CHINESE INFLUENCE

NO. 44. SOUTHEAST ROOM
ROUND-A-BOUT CHAIR
CHIPPENDALE

NO. 1. WASHINGTON ROOM
WINDSOR WRITING CHAIR



NO. 15. SOUTHEAST ROOM
HOLLYHURST CHAIR

NO. 18. NORTHEAST ROOM
HOLLYHURST CHAIR
NEW WOODEN TYPE OF HOLLYHURST CHAIR

NO. 48. SOUTHEAST ROOM
FURNISHED CHAIR
CHIPPENDALE DESIGN

NO. 17. NORTHEAST ROOM
TURNED CHAIR, CHAIR

NO. 15. NORTHEAST ROOM
WINDSOR CHAIR, PAN-BACK

4. **Landscape embroidery on linen.** 18th century.
5. **Spinning wheel.**
6. **Small leather covered box studded with brass nails.**
7. **Pair brass candlesticks.**
8. **Mantel clock.** Mahogany case, brass pierced side panels and top handle. From 1790-1800.
9. **Thread winder.** Mahogany.
10. **Two wool carders.** From Jonas Platt's house, King's Park, Long Island.
11. **Small spinning wheel.**
12. **Yarn winder.**
13. **Reel for winding wool or linen.**
14. **Corner wash stand.** Mahogany. Characteristic of Heppelwhite; legs curved outward. Bowl and pitcher. Staffordshire printed ware.
15. **Three Windsor chairs.** Fan backs.
16. **Child's rocking chair.** Used by four generations.
17. **Slat back, turned child's chair.**
- 18-19. **Rush bottom chairs.** New England type of rocking chair—period last quarter of 18th century.
20. **Wooden cradle.** Covered with leather and studded with brass nails. Marked 1734.
21. **Two water color flower studies.** Painted on white satin by Eliza Eliot. Late 18th century.
22. **Case containing samples and various articles of needle work.** One piece of embroidery in colored wools on homespun linen, by Elisabeth Wyllys.
Born 1708. Great granddaughter of Governor George Wyllys.
23. **Chair table.** Arms and underbracing show it to be of the Wainscott type. The upturned top made it useful in keeping off draughts.
24. **Furniture of almost every variety was made in miniature, probably for children's toys.** It was advertised for sale in New York between 1760-1770.

THE WASHINGTON ROOM

So named by the Van Cortlandt family after a visit from
General George Washington

1. **Writing chair.** Windsor. An American development, having one wide arm.
2. **Chair in Dutch style.** Bandy legs and underbraced. About 1780.

3. **Foot rest.** Mahogany. For gouty foot.
- 4-5. **Copper and brass Warming pans.**
6. **Piece from dinner service, with the insignia of the Cincinnati.** Used by General Washington.
7. **Sword.** Damascene blade. Captured from a Hessian officer at the battle of Butts Hill, near Newport, R. I., August 29, 1778, by Col. John Trumbull.
8. **Pair of brass mounted pistols.**
9. **Ebony mantel clock.** Empire period.
10. **Girandole.**
11. **Round-a-bout chair.**
12. **Bed table.** Tripod stand.
13. **Inlaid mahogany commode.** About 1790.
14. **Cosey chair.** Ball and claw feet, under brace. 1750.
15. **Four High post bedstead and dimity hangings.** Used by General Washington.
16. **Plate chest.**
17. **Corner wash-stand.** Heppelwhite design. Bowl and pitcher. Staffordshire printed.
18. **Mirror.** Like No. 2 in the northeast room.
19. **Writing desk.** Said to have been used by General Washington while visiting at Van Cortlandt.
20. **Silver mounted pistol.**
21. **Piece of Martha Washington's wedding dress.**
Piece of the seal presented to General Washington by the ladies of Boston.
Piece of General Washington's bed curtain.
Pair of small glass toilet bottles used by General Washington; also a jelly glass.
22. **Chair.** Chippendale style, showing Chinese influence.
23. **Old mahogany blanket chest.**
24. **Chair.** Covered with horse hair. Used by Henry Clay in the Senate chamber.
25. **Invitation to Col. Lamb to dine with General Washington at West Point, 1780.**



KITCHEN

The Kitchen

In Colonial days the homestead kitchen was the thrifty dame's domain. The wide fireplace, with the oven attached, occupied one whole side of the room, so large "we can brew and bake and boyl our Cyttle all at once in him." The hearth corners held trivets, peels and skillets; above the clavel piece were festoons of dried apples and peppers. Here the tireless housewife made preserves and conserves of quince, cherry and damson; marmalets, syrups, poppy-water, mint-water, cordials and cherry-water; egg cakes, makroons, apple slump, apple mose and apple crowdy. She must see to it also that in the darkened cellar beyond were stored betimes "great bins of apples, potatoes, parsnips and turnips, barrels of cider and vinegar, hogsheads of corned beef, salt pork and hams, tonnekins of salted shad and mackerel, kilderkins of home-made lard, jars of pickles, kegs of souse, rolliches, head cheese, and sausages." Withal she must find time to weave and spin as well as bake and brew.

Could the flax wheels speak, they would sing a tale of patient industry. Every farmer raised wool and flax, which the wives and daughters spun into thread and yarn.

"Whilst the shuttle swiftly flies,
With cheerful heart I work and sing,
And envy none beneath the skies."

1. Flax Wheel.

Flax was generally pulled for spinning early in July, proving the old saying, "June brings the flax." The spinner sat at the small flax wheel, moistened her fingers, usually in a gourd of water tied to her distaff, placed her foot on the treadle and spun the fibre into a long, even thread. In 1640 the Court of Massachusetts passed two orders directing the growth of flax. In Connecticut every family was ordered to spin a certain number of pounds of flax a year or else pay a fine. Rustic lovers often carved legends or letterings on the rims of the spinning-wheels, shuttles and hand-reels.

2. Wool Wheel.

Wool spinning required a most alert and flexible series of movements. The spinner, poised slightly forward, stepped swiftly back and forth, deftly winding her yarn on the spindle. A good day's work for an active spinner was six skeins of yarn. To accomplish this, it was estimated she would walk over twenty miles.

3. Two Windsor Chairs.

Windsor chairs were manufactured in Philadelphia about the middle of the eighteenth century. Much more comfortable than the bannister or slat-backed chairs then in common use.

4. Dutch Milk Can.

5. Churn.

An upright churn. Comparatively few New England families owned churns in the seventeenth century, so that not many could

have made butter, but in the eighteenth century every good dame in the country made cream and butter and the duties of the dairy were unceasing.

6. Child's rush-bottomed high chair.

7. Old dresser. The property of Stephen Skinner, Colonial Treasurer of New Jersey.

"On the dressers were placed in orderly rows the cheerful pewter and scant earthenware of the household."

8. Mortar and pestle.

Both grain and spices were pounded with a pestle in a mortar.

9. Earthenware tankard.

Earthenware appears in the list of sales at Fort Orange, proving its early use in the colonies.

10. White jelly mould.

11. Pewter ladle.

12. Two coffee canisters.

13. Pewter tankard.

From tankards they drank Beere, Wheay or Buttermilk and the mild fermented drinks made and drunk in large quantities in Colonial days.

14. Pink Staffordshire platter.

15. Wooden mortar and pestle. Burgess House, Duxbury. 1630.

16. Photographic reproduction of old Recipe Book. Belonging to Mrs. Thomas Hillhouse (Anna Van Schaick Ten Broeck, 1787-1865).

17. Four Staffordshire plates.

18. Stoneware plate.

19. Purple printed-ware bowl.

20. Staffordshire pepper pot.

21. Brass hour glass.

"So runs the round of life from hour to hour."

22. Brown Staffordshire cup.

23. Wooden mortar and pestle.

24. Staffordshire gravy boat.

25. Two pewter plates.

26. Two hot-water plates.

27. Seven pewter spoons.

All colonists had spoons, as much of the food was in the form of soup and was called "spoon meat."

28. Pewter mustard pot.

29. Two large pewter plates.

30. Pewter candlestick.

31. Pewter porringer.

A porringer was a shallow, circular dish, with a flat, plain or pierced handle; small porringers were sometimes called "posnets."

32. Pewter coffee pot.

33. Oval pewter platter.

34. Pewter tea pot.

In Revolutionary days, at the time of the Stamp Act, many home-grown substitutes for tea were used, such as rib-wort, "Liberty Tea" from the four-leafed loose strife, and "Hyperion Tea" from raspberry, strawberry and currant leaves, sage and thoroughwort.

This was pronounced by good patriots to be "very delicate and most excellent."

35. Small pewter tea pot.

36. Three round pewter platters or chargers.

In Colonial times a full set of pewter platters, plates and dishes was called "A Garnish of Pewter." This was a favorite gift to a bride.

A kind of horse-tail rush gathered in the marshes, called "scouring rush," was used to scour pewter.

37. Pewter sugar bowl.

38. Old Chinese ginger jar.

39. Two candle moulds.

Candles were made by being run in moulds usually of tin or pewter. There were large moulds that made two dozen and smaller ones that made six. Candles were also made by the tedious process of dipping. The fragrant bayberry furnished a pale green wax for fine candles, which was never greasy to the touch; "neither does the snuff of these ever offend the smell like that of a tallow candle."

The thrifty housewife was known by her stock of symmetrical candles.

40. Fourteen kitchen utensils.

41. Settle from "back of the Catskills," hand-made by Jan Van Hoesen about 1710.

42. Photograph of Southern Kitchen in "The Refuge," Camden County, Georgia.

43. Old mirror.

44. Eggnogg shaker.

45. Five old bottles.

In very early days glass bottles were of such rarity as to be bequeathed in wills with special mention.

46. Madeira wine bottle marked F.V.C. 1765.

These initials, enclosed in a heart raised on glass, are those of Frederic Van Cortlandt.

47. Wine bottle marked Sidney Breese, 1765.

48. Hanging Clock.

49. Warming pan.

A pan with a perforated metal cover of copper or brass and a long wooden handle. These were filled with hot coals, thrust within the bed, and moved rapidly back and forth, so as to warm the sheets without scorching them and infuse some heat into the ice-cold beds of the winter bedrooms.

50. Dutch Oven. Burgess House, Duxbury. 1630.

The Dutch Oven, or Roasting Kitchen. Cylindrical in form, standing on four feet, for the roasting of meat and poultry before the open fire. The joint to be cooked was held in place by a long spit, which projected at each end, so the meat could be turned without opening the cylinder. There was a little door at the back for convenience in basting.

51. Pone Oven.

For baking any bread made of Indian corn or meal, commonly called corn-pone. Much used in the southeastern United States by the negroes and poor whites.

52. Glass lantern.

Old time lantern, often of pierced metal, nearly always hung by the side of the fireplace near the warming pan.

53. Iron lantern.

54. Coffee roaster.

55. Long-handled shovel.

The long handle, to make endurable the blazing heat of the logs.

56. Wafer-iron.

It was quite customary for newly-married couples to have one of these wafer-irons made with the united initials and the date upon it, so that the impression of the letters and figures was made on the cakes when baked.

57. Steel waffle-iron. Burgess House, Duxbury. 1630.

58. Peel or Slice. Burgess House, Duxbury. 1630.

For putting pies and loaves of bread in the deep oven. It hung by the oven side. The Bread-peel was a universal gift to a bride, as significant of domestic utility and good luck.

59. Two spiders for trying lard.

60. Two Chimney Cranes.

Cranes which held a motley collection of pot-hooks, pot-hangers, pot-clips, pot-crooks, pot-claws and trammels.

61. Three iron pots, two skillets and kettle. Burgess House. Duxbury. 1630.

62. Four brass candlesticks.

63. Chafing-dish.

64. Footstove.

"The footstove, fireside neighbor to the warming pan. A box of perforated metal in a wooden frame in which hot coals were placed to warm the feet of the good wife during a winter's drive or in the bleak, unheated meeting houses."

65. Dutch baking-dish, Pennsylvania.

66. Pie plate, Pennsylvania.

67. Earthenware cream jar.

68. Wafer-iron and waffle-iron.

69. Toaster. Burgess House, Duxbury. 1630.

Toast rack on its spindling legs, of somewhat later date than the frying pans, trivets, spits and cauldrons.

70. Whale-oil lamp.

In the oil made from whales, the colonists found a cheap supply for their metal and glass lamps.

71. Fire pot-hooks.

On the pot-hooks or trammels pots and kettles could be hung at varying heights over the fire.

"On went the boilers, till the hake
Had much ado to bear 'em."

72. Wrought-iron tongs. Burgess House, Duxbury. 1630.

73. Coal screen-shovel. Burgess House, Duxbury. 1630.

74. Coal carrier.

75. Toaster.

76. Revolving gridiron.

So the meat could be turned and broiled evenly before the open fire.

77. Bull's-eye lamp used in the illumination at Quebec in honor of George the Fourth.

78. Brass cake turner.

79. Brass skimmer.

80. Pot-hooks and extension crane. Burgess House, Duxbury. 1630.

81. Two brass kettles.

82. Dutch oven.

83. Flintlock gun.

The favorite resting place for a fowling-piece was on hooks over the kitchen fire—for nearly every man possessed a gun, a powder horn and a bullet pouch.

84. Powder horn.

These were frequently carved, attesting to months of patient work. Maps, plans, legends, family history, dates of births, marriages and deaths, and lists of battles were recorded on them, making them valuable as historical records.

85. Old corner cupboard.
86. Blue Canton China and blue English ware (in cupboard).
87. Three blue ginger jars from China.
88. Hog's collar.
89. Wooden scales and weights. Burgess House, Duxbury. 1630.
90. Churn, wooden paddles and rolling-pin. Burgess House, Duxbury. 1630.
91. Candle mould.
92. Chopping bowl.
93. Covered kneading trough.
Wooden bread trough used in every home.
94. Tallow dips and wicks.
The wicks were made of loosely-spun hemp, tow or cotton. Each wick was attached to a wire or nail placed across the open top of the cylinder and hung down in the centre of each individual mould. The melted tallow was poured in carefully around the wicks.
95. Iron candlestick.
96. Two brass smoothing-irons.
97. Mould for bonny-clabber.
Tin mould with a perforated pattern on a small sheet of tin inside to impress the design on the bonny-clabber as it stiffened. Bonny-clabber was a kind of "curds and whey."
98. Queen-Bee trap.
99. Butter Print.
100. Large pewter spoon.
101. Two tailors' geese.
102. Brass smoothing iron.
103. Copper coffee pot.
104. Wooden fork, Virginia.
105. Chopping bowl.
106. Fluting iron.
107. Tin whale-oil lamp.
108. Spice grinder.
109. Knife box.
110. Horn-handled knife and fork.
111. Iron mortar and pestle. Burgess House, Duxbury. 1630.
112. Old kitchen table.

113. Old rush-bottomed armchair.

114. Fiddle-back rush-bottomed chair.

115. Brass kettle, iron pot, iron tea kettle and trivet, from old kitchen of "The Refuge," Camden County, Georgia.

The largest iron pot used to boil the grease and lye together at the annual spring making of soft soap, one of the most trying of all the household industries. The day, chosen after consultation with the family counselor, the almanac, that the moon be in the right quarter and the tide at flood.

Trivet. A movable frame to hold pots in the place of legs. They were of varying heights, so that the body of the utensil could be raised above the ashes and coals of the open fireplace to exactly the desired proximity.

116. Spider.

A flat iron pot or bake-pan.

117. Three-legged iron pot.

118 Gravy boat.

In the preparation of this catalogue the works of the following authors have been consulted and drawn from: Bancroft, Wilson, Lamb, Lossing, Ruttenberg, Murat Halstead, R. T. Haines Halsey, John H. Buck, William Loring Andrews, Helen Churchill Candee, William Gordon Verplanck, Luke Vincent Lockwood, Moore, Wood, Markham, Bell, Mrs. Alice Morse Earl, Mrs. Gertrude Vanderbilt and others, besides the various encyclopædias.

In the Hudson-Fulton Exhibit at the Metropolitan Museum of Art in Central Park, will be found two interesting collections made by the Colonial Dames of the State of New York. A collection of Portraits, by distinguished Painters, illustrating the Colonial Period and of great historical value ; also a collection of Colonial Silver fully representing the work of the English and American Colonial Silversmiths of the 17th and 18th centuries.

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BROOKLYN INSTITUTE, Eastern Parkway. Open daily, except Sundays, from 9 a.m. to 6 p.m.; Sundays from 2 to 6 p.m.; Thursday evenings from 7.30 to 9.30 p.m. Free except on Mondays and Tuesdays, when admission fee is charged of 25 cents for adults and 10 cents for children under six years of age. Collections illustrating various departments of Archæology, Mineralogy and Ethnography. **Special Exhibition relating to past and present life of Indians on Long Island.** Portrait of Robert Fulton painted by himself, the property of Col. Henry T. Chapman and loaned by him to the Museum. Open September 1st to December 31st. (Illustrated catalogue for sale.)

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COLLEGE OF THE CITY OF NEW YORK, St. Nicholas Avenue and 139th Street. Hudson-Fulton Exhibit. During the Hudson-Fulton Celebration and for some weeks thereafter, the College of the City of New York will have on exhibition in its historical museum a collection of charts, views, manuscripts and relics

representing old New York. Among the charts will be original prints of New Netherlands and New Amsterdam by Nicholas J. Vischer, about 1650; N. Visscher, 1690; Lotter's "New Jorck," 1720; contemporary plans and views of the Revolutionary period showing the movements of Washington and Howe in this vicinity during the Campaign of 1776; Revolutionary battle relics; portraits, residences and letters of old New Yorkers; bronze busts of Washington, Lincoln and Fulton by Houdon and Volk; and other material suggested by the celebration.

Take Sixth Avenue Elevated Railway to 140th Street, or Broadway Subway to One Hundred and Thirty-seventh Street.

DEPARTMENT OF PARKS, BOROUGHES OF BROOKLYN AND QUEENS. Through the courtesy of Commissioner Michael J. Kennedy, the different species of trees have been labeled in Prospect Park, from the Plaza to the Willink Entrance; in Bedford Park; in Highland Park, and in Tompkins Park. An additional small enameled sign has been hung on those labeled trees that were indigenous to the Hudson River Valley in 1609. The special label reads: "This species is a native of the Hudson River Valley."

FRAUNCES TAVERN, 54 Pearl Street, near Broad Street. Historic Revolutionary Building. Built in 1719. Scene of Washington's farewell to his officers on December 4, 1783. Restored December 4, 1907, by the New York Society of the Sons of the Revolution. Open daily, except Sundays, from 9 a.m. to 6 p.m. Special Exhibition of Revolutionary Relics by the New York State Society of the Sons of the Revolution, who are the owners of the historic building, September 15th to November 1st.

Take Subway to Bowling Green Station, or Third Avenue Elevated Railway to Hanover Square Station, or Broadway surface cars.

LONG ISLAND HISTORICAL SOCIETY, corner of Pierrepont and Clinton Streets, Brooklyn, between Brooklyn Bridge and Borough Hall. Open daily, except Sundays, from 8.30 a.m. to 6 p.m. Reference library of 70,000 volumes; manuscripts, relics, etc. Autograph receipt of Robert Fulton and original manuscript volume of Danker's and Sluyter's "Journal of a Voyage to New York in 1679-80."

Take Subway to Borough Hall, Brooklyn; Third Avenue Elevated Railway or surface cars to Brooklyn Bridge, connecting with Bridge cars.

METROPOLITAN MUSEUM OF ART, Central Park East. Main entrance on Fifth Avenue at Eighty-second Street. Open daily, except Sundays, from 10.00 a.m. to 6.00 p.m.; until Dec. 31st, to 5.00 p.m.; Saturdays to 10.00 p.m.; Sundays from 1.00 to 6.00 p.m. On Mondays and Fridays an admission fee of 25 cents is charged, except to members and copyists. Collections illustrating all departments of Art and Archæology. Special Exhibition of a magnificent Collection of over 130 of the works of 17th century Dutch Masters, constituting the finest Exhibition of this kind ever made. Products of Colonial Art: American Paintings, Furniture, Pewter and Silver of the 17th and 18th centuries, etc. (Two catalogues for sale, one of Dutch Exhibit and one of Colonial Arts; price, 10 cents each. Also finely illustrated edition de luxe.)

Take Fifth Avenue stages or Madison Avenue surface cars to Eighty-second Street, one block east of Museum; connection with Subway at Forty-second Street, and with Elevated Railway and West Side surface cars at Fifty-ninth Street.

NATIONAL ARTS CLUB, Twentieth Street near Irving Place (Gramercy Park). This house was formerly the residence of Samuel J. Tilden, and is situated one block east of the birth-place of Ex-President Roosevelt. Open daily from September 20th to about October 18th, 1909, from 10 a.m. to 6 p.m. Special

Loan Exhibition by the National Arts Club, in coöperation with the American Scenic and Historic Preservation Society.

Three centuries of New York City: Special Exhibition of Paintings, Photographs, Drawings and other interesting materials, illustrating the growth and progress of New York from the time of Henry Hudson to the present day.

Take Fourth or Madison Avenue surface cars to corner of Fourth Avenue and Twentieth Street, one block west of Club-house. Subway Station at Eighteenth Street and Fourth Avenue, three blocks away.

NEW YORK AQUARIUM, in Battery Park. Under the management of the New York Zoölogical Society. Open daily, including Sundays, from 9 a.m. to 5 p.m. until October 15th. (October 16th to April 14th, from 10 a.m. to 4 p.m.) This building was erected in 1807 by the United States Government as a fort and after the War of 1812 was called Castle Clinton; later, as Castle Garden, it was the scene of Jenny Lind's triumphs, and from 1855 to 1890 it was the portal of the New World for 7,690,606 immigrants. This is the largest aquarium in the world and contains a greater number of specimens and species than any other. All tanks containing fish indigenous to the Hudson River will be so marked.

Take any Elevated Railway to Battery Place Station, or Subway to Bowling Green Station. Also reached by all surface cars which go to South Ferry.

NEW YORK BOTANICAL GARDEN, Bronx Park. Museums open daily including Sundays from 10 a.m. to 5 p.m.; Conservatories from 10 a.m. to 4 p.m. Grounds always open. In the Grounds and Conservatories exhibits of Plants, Shrubs, Trees and Natural Woodland; in the Museums, Plant Products utilized in the Arts, Sciences and Industries. All Trees growing on Manhattan Island and Hudson River Valley at the time of Hudson's arrival are marked with the letter "H." (Special illustrated catalogue for sale.)

Take Third Avenue Elevated Railway to Bronx Park (Botanical Garden). Subway passengers change at Third Avenue and 149th Street. Also reached by Harlem Division of the New York Central Railroad from Grand Central Station, Fourth Avenue and Forty-second Street.

NEW YORK GENEALOGICAL AND BIOGRAPHICAL SOCIETY, 226 West Fifty-eighth Street, between Broadway and Seventh Avenue. Open daily, except Sundays, from 10.00 a.m. to 5.00 p.m., until November 1st. Special Exhibition of old Deeds, Manuscripts, Books, Portraits, etc., relating to the history of the United States up to and including the War of 1812. (Catalogue for sale.)

Take Broadway surface cars to corner of Fifty-eighth Street. Subway station at Columbus Circle (Fifty-ninth Street), two blocks distant. Sixth Avenue Elevated station at Ninth Avenue and Fifty-ninth Street, three blocks away.

NEW YORK HISTORICAL SOCIETY, corner of Seventy-seventh Street and Central Park West. September 25th to October 30th, open daily from 9 a.m. to 5 p.m. Robert Fulton Exhibition of the New York Historical Society, in coöperation with the Colonial Dames of America. (Catalogue for sale.)

Take Sixth Avenue Elevated Railway to Eighty-first Street and Columbus Avenue, or surface cars traversing Central Park West. Also reached by any Columbus Avenue surface car to Seventy-seventh Street.

NEW YORK PUBLIC LIBRARY, Lenox Branch, Fifth Avenue and Seventy-second Street. Open daily, except Sundays, from 9 a.m. to 6 p.m. Special Exhibition of Prints, Books, Manuscripts, etc., relating to

Henry Hudson, the Hudson River, Robert Fulton and Steam Navigation. (Special illustrated catalogue for sale; price, 10 cents.)

Take Fifth Avenue Stages, or Madison Avenue surface cars to Seventy-second Street, one block east of Library; connection with Subway at Grand Central Station and with Elevated Railway and West Side surface cars at Fifty-ninth Street.

NEW YORK ZOÖLOGICAL PARK, under the management of the New York Zoölogical Society, in Bronx Park. Open daily, including Sundays, from 9 a.m. until an hour before sunset (November 1 to May 1 from 10 a.m.). Free, except on Mondays and Thursdays, when an admission fee of 25 cents is charged. Exhibition of a splendid collection of Animals, Birds and Reptiles. The fauna of Henry Hudson's time on Manhattan Island and Hudson River Valley will be indicated by the flag of the Hudson-Fulton Celebration. (Special illustrated catalogue for sale.)

Take Subway trains marked "Bronx Park Express" to terminus at 180th Street, or Third Avenue Elevated to Fordham Station. The entrances are reached by numerous surface cars.

REFORMED DUTCH CHURCH. The Reformed Protestant Dutch Church of the City of New York will make an exhibit in the chapel of the Church of St. Nicholas, Fifth Avenue and 48th Street, during the week of the celebration, 9 to 5 daily.

This church was organized A.D. 1628, and the exhibit will comprise articles connected with its long history.

VAN CORTLANDT HOUSE MUSEUM, in Van Cortlandt Park. This fine colonial mansion, built in 1748, with furniture of the period, is one of the oldest houses within the area of Greater New York; it is in the custody of the Colonial Dames of the State of New York. Open daily, 9.00 a.m. to 5.00 p.m. **Special Exhibition of Mezzotint Portraits of men prominent in political life prior to the Revolution; Wedgwood's Medallion Portraits of Illustrious Personages; Cartoons and Caricatures of political events, etc.** (Special illustrated catalogue on sale.)

Take Harlem Railroad from Grand Central Station; Sixth Avenue Elevated Railway, connecting at 155th Street with the Putnam Division of the New York Central Railroad; or Subway trains marked "Van Cortlandt Park."

WASHINGTON'S HEADQUARTERS (The Jumel Mansion), Roger Morris Park, Edgecombe Road and One Hundred and Sixty-second Street. Built about 1760. Under the Department of Parks. Exhibition by the ladies of the Washington Headquarters Association, Daughters of the American Revolution. Open free daily, including Sundays, from 9 a.m. to 5 p.m. **Special features: Collection of Colonial furnishings, objects and pictures; also the Bolton Collection of War Relics of the Revolution.**

Take "Tenth Avenue, Broadway, and Amsterdam Avenue" surface cars of the Third Avenue system; Sixth Avenue Elevated Railway to One Hundred and Fifty-fifth Street, or Broadway Subway to One Hundred and Fifty-seventh Street.

BY SPECIAL CARD ONLY

AMERICAN GEOGRAPHICAL SOCIETY, 15 West 81st Street. **Special Exhibition of Books and Maps relating to Henry Hudson and Robert Fulton.** Admission can be obtained by card. Apply to the Librarian, 15 West 81st Street. Open from September 25th to October 9th, from 9 a.m. to 5 p.m.

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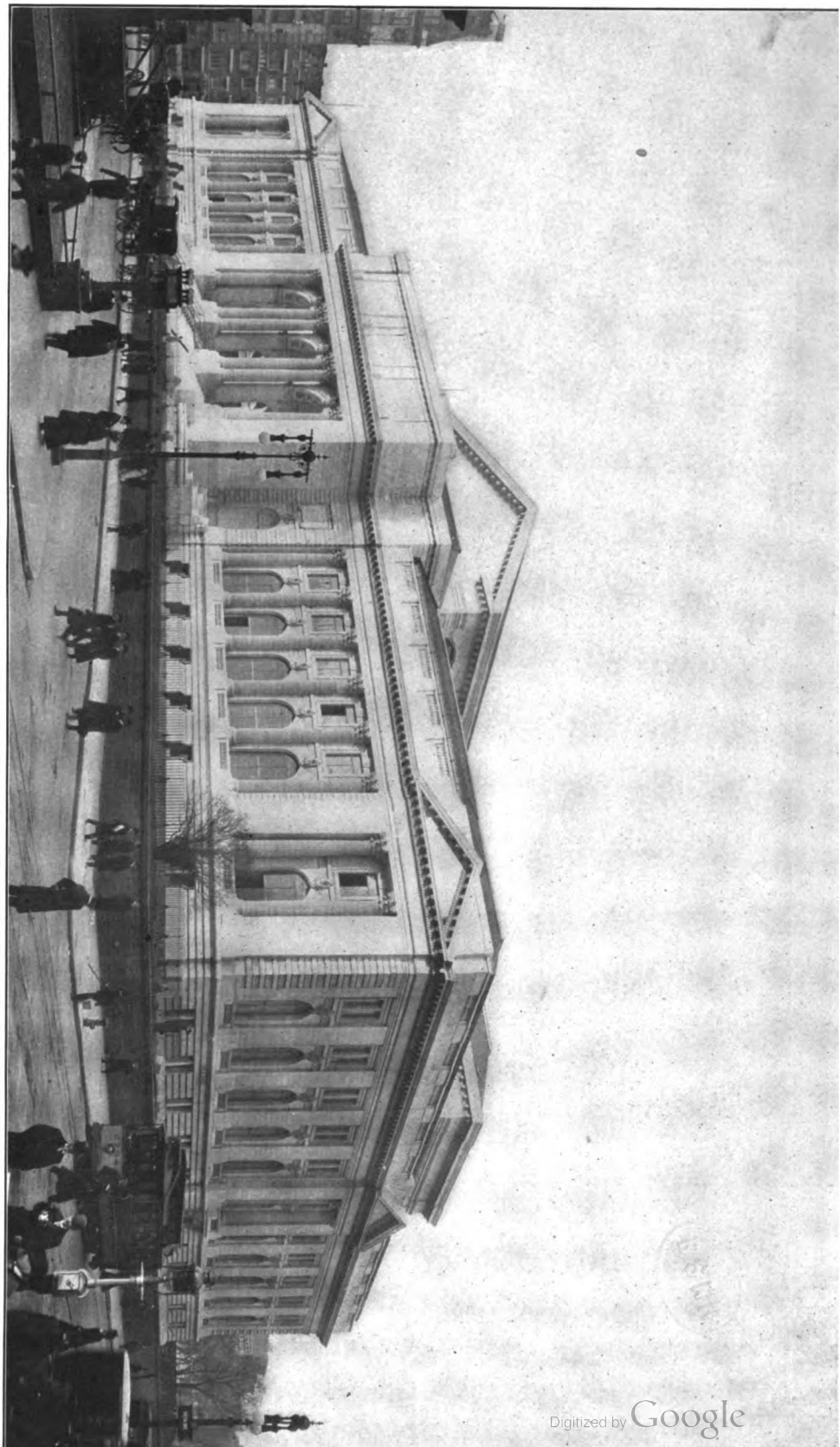
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CHILDREN'S MUSEUM (Brooklyn Institute), Bedford Park, Brooklyn Avenue. **Collection illustrative of the fauna of Long Island.** Open free to the public from Monday to Saturday (inclusive) from 9 a. m. to 5.30 p. m., and on Sunday from 2 until 5.30 p. m.

CITY HISTORY CLUB OF NEW YORK, 21 West Forty-fourth Street. **Special Exhibition of Illustrations, Photographs, Maps and Plans, relating to the history of the City of New York, and all of the originals used in the City History Club Historical Guide Book of the City of New York.**

COLLEGE OF THE CITY OF NEW YORK, St. Nicholas Avenue and 139th Street. **Hudson-Fulton Exhibit.** During the Hudson-Fulton Celebration and for some weeks thereafter, the College of the City of New York will have on exhibition in its historical museum a collection of charts, views, manuscripts and relics representing old New York. Among the charts will be original prints of New Netherlands and New Amsterdam by Nicholas J. Visscher, about 1650; N. Visscher, 1690; Lotter's "New Jorck," 1720; contemporary plans and views of the Revolutionary period showing the movements of Washington and Howe in this vicinity during the Campaign of 1776; Revolutionary battle relics; portraits, residences and letters of old New Yorkers; bronze busts of Washington, Lincoln and Fulton by Houdon and Volk; and other material suggested by the celebration.

Take Sixth Avenue Elevated Railway to 140th Street, or Broadway Subway to One Hundred and Thirty-seventh Street.

DEPARTMENT OF PARKS, BOROUGH OF BROOKLYN. Through the courtesy of Commissioner Michael J. Kennedy and his assistant arboriculturist, J. J. Levison, the different species of trees have been labeled in Prospect Park, from the Plaza to the Willink Entrance; in Bedford Park; in Highland Park, and in Tompkins Park. **An additional small enameled sign has been hung on those labeled trees that were indigenous to the Hudson River Valley in 1609.** The special label reads: "This species is a native of the Hudson River Valley."

FRAUNCES TAVERN, 54 Pearl Street, near Broad Street. **Historic Revolutionary Building.** Built in 1719. Scene of Washington's farewell to his officers on **December 4, 1783.** Restored December 4, 1907, by the New York Society of the Sons of the Revolution. Open daily, except Sundays, from 9 a. m. to 6 p. m. **Special Exhibition of Revolutionary Relics by the New York State Society of the Sons of the Revolution, who are the owners of that historical building, September 15th to November 1st.**

Take Subway to Bowling Green Station, or Third Avenue Elevated Railway to Hanover Square Station, or Broadway surface cars.

LONG ISLAND HISTORICAL SOCIETY, corner of Pierrepont and Clinton Streets, Brooklyn, between Brooklyn Bridge and Borough Hall. Open daily, except Sundays, from 8.30 a. m. to 6 p. m. Reference library of 70,000

volumes; manuscripts, relics, etc. **Autograph receipt of Robert Fulton and original manuscript volume of Danker's and Sluyter's "Journal of a Voyage to New York in 1679-80."**

Take Subway to Borough Hall, Brooklyn; Third Avenue Elevated Railway to Brooklyn Bridge, connecting with Bridge cars; or surface cars to Bridge.

METROPOLITAN MUSEUM OF ART, Central Park East. Main entrance on Fifth Avenue at Eighty-second Street. Open daily, except Sundays, from 10.00 a. m. to 6.00 p. m.; in winter to 5.00 p. m.; Saturdays to 10.00 p. m.; Sundays from 1.00 to 6.00 p. m. On Mondays and Fridays an admission fee of 25 cents is charged, except to members and copyists. Collections illustrating all departments of Art and Archæology. **Special Exhibition of a magnificent Collection of over 130 of the works of Old Dutch Masters, constituting the finest Exhibition of this kind ever made. Products of Colonial Art: Industrial Art, Furniture, Pewter of the 17th and 18th centuries, etc.** (Two illustrated catalogues for sale, one of Dutch Exhibit and one of Colonial Arts; price 10 cents each. Also finely illustrated edition de luxe.)

Take Fifth Avenue stages or Madison Avenue surface cars to Eighty-second Street, one block east of Museum; connection with Subway at Forty-second Street, and with Elevated Railway and West Side surface cars at Fifty-ninth Street.

NATIONAL ARTS CLUB, Twentieth Street near Irving Place (Gramercy Park). This house was formerly the residence of Samuel J. Tilden, and is situated one block east of the birth-place of Ex-President Roosevelt. Open daily from September 20th to about October 18th, 1909, from 9 a. m. to 10 p. m. **Special Loan Exhibition by the National Arts Club, in co-operation with the American Scenic and Historic Preservation Society, under the management of the New York Zoological Society.**

Three centuries of New York City: Special Exhibition of Paintings, Photographs, Drawings and other interesting materials, illustrating the growth and progress of New York from the time of Henry Hudson to the present day. (Catalogue for sale.)

Take Fourth or Madison Avenue surface cars to corner of Fourth Avenue and Twentieth Street, one block west of Club-house. Subway Station at Eighteenth Street and Fourth Avenue, three blocks away.

- **NEW YORK AQUARIUM**, in Battery Park. Open daily, including Sundays, from 9 a. m. to 5 p. m. until October 15th. (October 16th to April 14th, from 10 a. m. to 4 p. m.) This building was erected in 1807 by the United States Government as a fort and after the War of 1812 was called Castle Clinton; later, as Castle Garden, it was the scene of Jenny Lind's triumphs, and from 1855 to 1890 it was the portal of the New World for 7,690,606 immigrants. This is the largest aquarium in the world and contains a greater number of specimens and

species than any other. **All tanks containing fish indigenous to the Hudson River will be so marked.**

Take Elevated Railway to Battery Place Station, or Subway to Bowling Green Station; also reached by all surface cars which go to South Ferry.

NEW YORK BOTANICAL GARDEN, Bronx Park. Museums open daily, including Sundays from 10 a. m. to 5 p. m.; Conservatories from 10 a. m. to 4 p. m. Grounds always open. **In the Grounds and Conservatories exhibits of Plants, Shrubs, Trees, and Natural Woodland; in the Museums, Plant Products utilized in the Arts, Sciences and Industries. All plants growing on Manhattan Island and Hudson River Valley at the time of Hudson's arrival are marked with the letter "H."** (Special illustrated catalogue for sale.)

Take Third Avenue Elevated Railway to Bronx Park (Botanical Garden). Subway passengers change at 149th Street; also reached by Harlem Division of the New York Central Railroad from Grand Central Station, Fourth Avenue and Forty-second Street.

NEW YORK GENEALOGICAL AND BIOGRAPHICAL SOCIETY, 226 West Fifty-eighth Street, between Broadway and Seventh Avenue. Open daily, except Sundays, from 10.00 a. m. to 5.00 p. m., until November 1st. **Special Exhibition of old Deeds, Manuscripts, Books, Portraits, etc., relating to the history of the United States up to and including the War of 1812.** (Catalogue for sale.)

Take Broadway surface cars to corner of Fifty-eighth Street. Subway station at Columbus Circle (Fifty-ninth Street), two blocks distant; Sixth Avenue Elevated station at Ninth Avenue and Fifty-ninth Street, three blocks away.

NEW YORK HISTORICAL SOCIETY, corner of Seventy-seventh Street and Central Park West. September 25th to October 30th, open daily from 9 a. m. to 5 p. m. **Robert Fulton Exhibition, of the New York Historical Society, in co-operation with the Colonial Dames of America.** (Catalogue for sale.)

Take Sixth Avenue Elevated Railway to Eighty-first Street and Columbus Avenue, or surface cars traversing Central Park West; also reached by any Columbus Avenue surface car to Seventy-seventh Street.

NEW YORK PUBLIC LIBRARY, Lenox Branch, Fifth Avenue and Seventy-second Street. Open daily, except Sundays, from 9 a. m. to 6 p. m. **Special Exhibition of Prints, Books, Manuscripts, etc., relating to Henry Hudson, the Hudson River, Robert Fulton, and Steam Navigation.** (Special illustrated catalogue for sale; price 10 cents.)

Take Fifth Avenue Stages, or Madison Avenue surface cars to Seventy-second Street, one block east of Library; connection with Subway at Grand Central Station and with Elevated Railway and West Side surface cars at Fifty-ninth Street.

NEW YORK ZOOLOGICAL PARK, under the management of the New York Zoological Society, in Bronx Park. Open daily, including Sundays, from 9 a. m. until an hour before sunset (November 1 to May 1 from 10 a. m.). Free, except on Mondays and Thursdays, when an admission fee of 25 cents is charged. Exhibition of a splendid collection of Animals, Birds and Reptiles. The fauna of Henry Hudson's time on Manhattan Island and Hudson River Valley will be indicated by the flag of the Hudson-Fulton Celebration. (Special illustrated catalogue describing same for sale.)

Take Subway trains marked "Bronx Park Express" to terminus at 180th Street, or Third Avenue Elevated to Fordham Station. The entrances are reached by numerous surface cars.

REFORMED DUTCH CHURCH. The Reformed Protestant Dutch Church of the City of New York will make an exhibit in the chapel of the Church of St. Nicholas, Fifth Avenue and 48th Street, during the week of the celebration, 9 to 5 daily.

This church was organized A. D. 1628, and the exhibit will comprise articles connected with its long history.

VAN CORTLANDT HOUSE MUSEUM, in Van Cortlandt Park. This fine colonial mansion, built in 1748, with furniture of period, is one of the oldest houses within the area of Greater New York; it is in the custody of the Colonial Dames of the State of New York. Open daily, 9.00 a. m. to 5.00 p. m. **Special Exhibition of Mezzotint Portraits of men prominent in political life prior to the Revolution; Wedgwood's Medallion Portraits of Illustrious Personages; Cartoons and Caricatures of political events, etc.** (Special illustrated catalogue on sale.)

Take New York Central Railroad from Grand Central Station; Sixth Avenue Elevated Railway, connecting at 155th Street with the Putnam Division of the New York Central Railroad; or Subway trains marked Van Cortlandt Park.

WASHINGTON'S HEADQUARTERS (The Jumel Mansion), Roger Morris Park, Edgecombe Avenue and One Hundred and Sixty-second Street. Built about 1760. Under the Department of Parks. Exhibition by the ladies of the Washington Headquarters Association, Daughters of the American Revolution. Open free daily, including Sundays, from 9 a. m. to 5 p. m. **Special features: Collection of Colonial furnishings, objects and pictures; also the Bolton Collection of War Relics of the Revolution.**

Take Amsterdam Avenue surface cars; Sixth Avenue Elevated Railway to One Hundred and Fifty-fifth Street, or Broadway Subway to One Hundred and Fifty-seventh Street.

LIST OF WORKS IN THE NEW YORK PUBLIC LIBRARY RELATING TO HENRY HUDSON, THE HUDSON RIVER, ROBERT FULTON, EARLY STEAM NAVIGATION, ETC.

A selection from the material here noted was exhibited at the Lenox branch in connection with the Hudson-Fulton celebration, September, 1909.

The order of arrangement is (1) Books, (2) Prints, (3) Maps. The arrangement of the individual groups is set forth in detail at the beginning of each.

BOOKS.

Order of Arrangement:

HENRY HUDSON.
THE HUDSON RIVER.
HISTORY OF HUDSON RIVER COUNTIES IN NEW YORK
AND NEW JERSEY.
HISTORY OF HUDSON RIVER CITIES AND TOWNS IN NEW
YORK AND NEW JERSEY.

ROBERT FULTON.
ROBERT R. LIVINGSTON.
JOHN FITCH.
JAMES RUMSEY.
HISTORY OF STEAM BOATS AND STEAM NAVIGATION.

HENRY HUDSON.

Asher (George Michael). Henry Hudson the navigator; the original documents in which his career is recorded, collected, translated and annotated with an introduction. (Hakluyt Soc. Pub., v. 27. London, 1850. 8°.)

— Henry Hudson, the navigator. . . 4, (6) ccxviii, (2) 292 p., 2 maps. London: Hakluyt Society, 1860. 8°.

— Sketch of Henry Hudson, the navigator. Brooklyn, 1867. 23 p. 8°.

Bacon (Edgar Mayhew). Henry Hudson: his times and his voyages. New York: G. P. Putnam's Sons, 1907. xii, 1 l., 277 p., 2 maps. 13 pl., 7 ports. 12°. (American Men of Energy.)

Bardsen (Ivar). See **De Costa** (B. F.)

Brooklyn Public Library. List of Books and Magazine Articles on Henry Hudson and the Hudson River, Robert Fulton and Early Steam Navigation in the Brooklyn Public Library. Brooklyn, 1909. 12 p. 12°.

Cleveland (Henry R.) Life of Henry Hudson. (In: The Library of American Biography, conducted by Jared Sparks. Vol. 10, pp. 185-261. Boston, 1838. 12°.)

Conway (Sir W. M.) Hudson's voyage to Spitsbergen in 1607. [London: W. Clowes & Sons, 1900?] 1 p.l., 10 p. 8°.

Repr.: "The Geographical Journal," Feb. 1900.

De Costa (Rev. Benjamin Franklin). Sailing directions of Henry Hudson, prepared for his use in 1608, from the old Danish of Ivar Bardsen. With an introduction and notes: also a dissertation on the discovery of the Hudson River. Albany: J. Munsell, 1869. vi, 1 l., 9-102 p. 8°.

Dinse (Paul). Die Anfänge der Nordpolarforschung und die Eismeerfahrten Henry Hudsons. Berlin: E. S. Mittler, 1908. 28 p. 8°. (Meereskunde. Jahrg. 2, Heft. 2.)

Hall (Edward Hagaman). Hudson and Fulton. A brief history of Henry Hudson and Robert Fulton with suggestions designed to aid the holding of general commemorative exercises and children's festivals during the Hudson-Fulton celebration in 1909. New York: Hudson-Fulton celebration commission [1909]. 8°.

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Hawks (F. L.) The adventures of Henry Hudson. By the author of "Uncle Philip's conversations;" [i. e., F. L. Hawks]. New York: D. Appleton & Co., 1852. 161 p. 16°.

Horner (Harlan Hoyt). Hudson-Fulton celebration, September 25 to October 9, 1909. Albany: N. Y. State Education Department, 1909. 64 p., 1 map. illus. 8°.

Bibliography.

Hudson (Henry). Descriptio ac delineatio Geographica Detectionis Freti, sive, Transitus ad Occasum, suprâ terras Americanas... Recens investigati ab M. Henrico Hudsono Anglo. Item, Narratio... Avstrialiæ Incognitæ... recens detecto, Per... F... de Quir. Vnâ cum descriptione Terræ Samoedarvm & Tingoestiorvm... [tr. fr. I. Massa by R. Vitellius] [Edited by Hessel Geritszoon.] Amsterodami: Hesselij Gerardi, 1612. 23 l., 3 maps. 4°.

— Descriptio ac delineatio Geographica Detectionis Freti, sive, Transitus ad Occasum, suprâ terras Americanas... Recens investigati ab M. Henrico Hudsono Anglo. Item, Narratio... Avstrialiæ incognitæ... Per... P... F... de Quir. Vnâ cum descriptione Terræ Samoedarvm &

Henry Hudson, cont'd.

Tingoesiorvm... [by I. Massa, tr. by R. Vitellius.] [Ed. by Hessel Gerritsz.] *Amsterdam: H. Gerardi*, 1612. 3 l., 3 maps, 21 l. 4°.

— *Descriptio ac delineatio Geographica detectionis freti, Sive, Transitus ad Occasum supra terras Americanas...* Recens investigati ab M. Henrico Hudsono Anglo. Item, Exegesis Regi Hispaniæ facta, super... Australis Incognita. Cum descriptione Terrarum Samoiedarum & Tingoesiorum... [Ed. by H. Gerritszoon.] *Amsterdam: Hesselij Gerardi*, 1613. 25 l., 4 maps, 1 pl. 4°.

— *Descriptio ac delineatio Geographica detectionis freti, Sive, Transitus ad Occasum supra terras Americanas...* Recens investigati ab M. Henrico Hudsono Anglo. Item, Exegesis Regi Hispaniæ facta, Super... Australis Incognita. Cum descriptione Terrarum Samoiedarum & Tingoesiorum... [Ed. by H. Gerritszoon.] *Amsterdam: Hesselij Gerardi*, 1613. 25 l., 5 maps, 1 pl. 4°.

— Arctic (The) north-east and west passage. Detectio Freti Hudsoni or Hessel Gerritsz's collection of tracts by himself, Massa and De Quir on the N. E. and W. Passage, Siberia and Australia. Reproduced, with the maps, in Photolithography in Dutch and Latin after the editions of 1612 and 1613. Augmented with a new English translation by Fred. John Millard... and an essay on the origin... of this collection by S. Muller... *Amsterdam: F. Muller & Co.*, 1878. 2 p.l., xxvii p. A-E4, A-C2 in 4 s., 47 p., 3 maps. 4°.

— *Diuers voyages and Notherne Discoueries of that worthy irrecouerable Discouerer Master Henry Hudson...* [1607-1610, voyages towards the North Pole, to Nova Zembla, Hudson River, and for the discovery of the North West Passage] ended with his end, being treacherously exposed by some of the Companie. Reprint from Purchas his Pilgrimes, *London*. Fol. 1625, pp. 567-610. (In: N. Y. Hist. Soc., Collections, 1. series, vol. 1, 1811, pp. 61-188.)

— The third voyage of Master Henrie Hudson toward Noua Zembla, and at his returne, his passing from Farre Islands, to New-found Land, and along to fortie foure degrees and ten minutes, and thence to Cape Cod, and so to thirtie three degrees; and along the Coast to the Northward, to fortie two degrees and an halfe, and up the Riuer neere to fortie three degrees. Written by Robert Ivet of Lince-house. (In: Purchas his Pilgrimes, *London*, 1625. Part 3, Lib. 3, ch. 16. pp. 581-595. f°.)

Hudson sailed from Amsterdam 25 March 1609 (O. S.) and made the English coast on his return 7 November 1609 (N. S.)

— Extract from the journal of the voyage of the Half Moon, Henry Hudson, master, from the Netherlands to the coast of North-America, in the year 1609. By Robert Juett, mate. (In: New-York Historical Society, Collections, 2 series, vol. 1, 1841, pp. 317-332.)

— The discovery of the Hudson River, from "The third voyage of Master Henry Hudson, toward Nova Zembla..." 20 p. (Old South leaflets [general ser.] no. 94. *Boston*, 1898.)

— The discovery of the Hudson River by Master Henry Hudson in 1609 and his death in

1611. The second voyage of the Half Moon. The search for the north-west passage. *New York*, 1907. 12 l. 8°.

Repr.: v. 3, bk. 3, of Purchas' Pilgrimes. For a dinner of the Half Moon Dining Club at the Univ. Club, N. Y. City, 7 Feb. 1907.

— Voyage in 1609. Extract from "Verhael van de eerste Schip-vaert der Hollandsche ende Zeensche Schepen door't Way-Gat by Noorden. Noorwegen, Moscovie, ende Tartarien om, na de Coninckrycken Cathay ende China: &c. &c.: 't Amsterdam, voor Joost Hartgers, &c. 1648, in 4°." Transmitted to the N. Y. Historical Society, by Dr. M. F. A. Campbell... Translated by J. Romeyn Brodhead. (In: New-York Historical Society, Collections, 2. series, Vol. 2, p. 367-370. *New York*, 1849. 8°.)

Hudson-Fulton Celebration Commission. Minutes. [Nos.] 28-29, 449, 477, 687, 721, 743, 769. (Apr. 22, May 6-27, Sept. 18, 23, Oct. 14-28, Dec. 23, 1908; Jan. 7, Jan. 27, Feb. 3, 1909. *New York*, 1908-1909. 8°.)

Janvier (Thomas A.) Henry Hudson: a brief statement of his aims and his achievements. To which is added a newly discovered partial record, now first published, of the trial of the mutineers by whom he and others were abandoned to their death. *New York: Harper and Bros.*, 1909. xiii, 1 l., 147 (1) p., 4 facsim., 6 pl. 12°.

Johnson (George). The Great Seamen of the North. Henry Hudson. (In: The Canadian Magazine, Vol. 18, 1902, pages 514-22. *Toronto*, 1902.)

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Leupe (Pieter-Arend). Henry Hudson in Holland. 1608-1609. [Review in Dutch of work with this title by H. C. Murphy, n. t. p. [*S' Gravenhage*, 1859.] 3 p. 4°.

Miller (Samuel). A discourse, designed to commemorate the discovery of New-York by Henry Hudson; delivered before the New-York Historical Society, Sept. 4, 1809; being the completion of the second century since that event. (In: New-York Historical Society Collections, 1. series, vol. 1, pp. 17-45. *New York*, 1811.)

Morris (Gouverneur). An inaugural discourse delivered before the New-York Historical Society 4th September, 1816; the 206th anniversary of the discovery of New-York by Hudson. *New York: T. & W. Mercein*, 1816. 24 p. 8°.

Murphy (H. C.) Henry Hudson in Holland, an inquiry into the origin and objects of the voyage which led to the discovery of the Hudson river. With biographical notes. 72 p., 1 port. *The Hague: Brothers Giunta d'Albani*, 1859. 8°.

— [Repr. with notes and tr. by Wouter Nihoff.] *The Hague: M. Nijhoff*, 1909. 8°.

New York (State). Governor. Message to the Legislature concerning celebration of the 300th anniversary of the discovery of Hudson River by Hendrick Hudson in 1609 and of the centennial anniversary of the first use of steam in the navigation of the Hudson River by Robert Fulton in 1807. Albany, Feb. 19, 1906. *Albany*, 1906. 2 f. f°.

Typewritten copy.

Henry Hudson, cont'd.

Read (John Meredith), jr. A historical inquiry concerning Henry Hudson, his friends, relatives and early life... connection with the Muscovy Company and discovery of Delaware Bay. vi, 1 l., 5-209 p., 1 pl. *Albany: J. Munsell*, 1866. 4°.

Delivered before the Hist. Soc. of Delaware, on its first anniversary.

Willis (Nathaniel Parker). Romance of travel, comprising tales of five lands, by the author of, *Pencilings by the way* [i. e. Nathaniel Parker Willis]. *New York: S. Colman*. 1840. 9-300 p. 12°.

Contains: Oonder-Hoofden: A tale of the voyage of Hendrick Hudson.

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THE HUDSON RIVER.

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Bacon (Edgar Mayhew). The Hudson River from ocean to source: historical, legendary, picturesque. With 100 illustrations, and with sectional map of the Hudson River. *New York: G. P. Putnam's Sons*, 1902. xii, 1 l., 590 p., 1 pl. 4°. (American Waterways.)

Benignus (W. H. H.). Klänge vom Hudson. [*New York: "N. Y. & Albany Hudson Riv. Day Line,"* cop. 1900.] 2 p.l., 7-92 p., 1 l. 12°.

Verses.

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— The Hudson River and routes from New York to the White and Green Mountains, Montreal, Lake George, Saratoga, Newport and Niagara Falls. By Thursty McQuill [pseud. of W. Bruce]. *New York*, 1872. 78, 62 p. 16°.

— The Hudson river by daylight. *New York to Albany, Saratoga Springs, Lake George, Lake Champlain, Plattsburg, the Adirondacks, Montreal, the Thousand Islands, Niagara Falls, Watkins' Glen, Richfield Springs, Cooperstown, Sharon, Howe's Cave, the Green Mountains, Manchester, Middletown and Lebanon Springs...* 160 p., 1 map, ill. *New York: G. Watson*, cop. 1873. 16°.

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Colles (C.) A survey of the roads of the United States of America. [*New York*] 1789. 86 [i. e.] pl. sm. 4°.

Plates 34-39 are lacking. Two pl. are numbered 45, and two 46. On the inside of the cover is pasted a copy of Colles' prospectus and advertisement of the work.

Cooper (Susan Fenimore). The Hudson river and its early names. [Signed Susan Fenimore Cooper. *New York: A. S. Barnes & Co.*, 1880?] 401-4 8 p., 1 map. 8°.

Extr.: *Magazine of American history*, vol. iv, June, 1880. no. 6.

Drake (Joseph Rodman). The culprit fay, and other poems. *New York: G. Dearborn*, 1836. 1 p.l., 92 p., 1 port. 8°.

Elting (Irving). Dutch village communities on the Hudson River. *Baltimore: J. Hopkins Press*, 1886. 68 p. 8°. (Johns Hopkins University Studies, 4. Series, no. 1.)

Hall (Edward Hagaman). The Palisades of the Hudson river. The Story of their Origin, Attempted Destruction, and Rescue. (American scenic and historic preservation society. 11th annual report. pp. 191-212. *Albany*, 1906. 8°.)

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Hudson River (A) bridge for New York City. [By W. P. Rodgers. n. t. p. 1886?] p. m. nar. 4°.

Hudson (The) river, by pen and pencil. *New York: D. Appleton and Co.* [1875] ii, 52, xiv p. 4°.

Hudson River Day Line. The most charming inland water trip on the American continent. [*New York: Press of R. L. Stillson Co.*, cop. 1903.] 40 p., 2 l. illus. ob. 8°.

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Hudson River, cont'd.

Hudson (The) River guide; containing a description of all the landings and principal places on the Hudson River, as far as navigable; stage, canal, and railroad routes. 1 l., pp. 227-240, map. n. p. [18—] 32°.

— n. t. p. n. p. [188—] 28 p. 16°.

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— Summer routes to Lake Champlain and the Adirondacks. *Plattsburgh: J. W. Tuttle [186—?]* 36 p., 1 map. 16°.

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— New York to Albany, Saratoga Springs, Lake George, Lake Champlain, Adirondack Mountains, and Montreal, with descriptive sketches of... objects of interest along the route. *New York: Taintor Bros. [1869]* v. p., 1 map. 16°. (Taintor's route and city guides.)

Hunt (Freeman). Letters about the Hudson River, and its vicinity; written in 1835 and 1836; by A. citizen of New York [pseud. of Freeman Hunt]. *New York: F. Hunt & Co., 1836.* 209 p. 16°.

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[**Irving** (Washington).] A book of the Hudson. Collected from the... works of Diedrich Knickerbocker. Ed. by Geoffrey Crayon. *New York: G. P. Putnam, 1849.* 1 p.l., viii, 9-283 p., 3 pl. 16°.

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Burgoyne (Lieut.-Gen. J.) Orderly book of ... Burgoyne, from his entry into the state of N. Y. until his surrender at Saratoga, 16th Oct., 1777. From the original manuscript deposited at ... Newburgh, N. Y. Edited by E. B. O'Callaghan. *Albany, N. Y.: J. Munsell*, 1860. xxxiv, 221 p., map, 1 pl., 4 port. sq. 8°. (Munsell's hist. ser. no. 7.)

Curtis (George William). Burgoyne's surrender: an oration delivered on the 100. anniversary of the event, Oct. 17, 1877, at Schuylerville, N. Y. *New York: Baker & Godwin, print.*, 1877. 27 p. 8°.

Neilson (C.) An original, compiled and corrected account of Burgoyne's campaign, and the memorable battles of Bemis's Heights, Sept. 19, and Oct. 7, 1777... xiv, 15-291 (1) p., 1 map. *Albany: J. Munsell, print.*, 1844. 12°.

Ostrander (William S.) Old Saratoga and the Burgoyne campaign. A brief sketch of the early history of the famous hunting grounds and the campaign which ended in the surrendering of the British army at Saratoga, October 17, 1777... *Schuylerville, N. Y.*, 1897. 42 (1) p., 1 map, 5 pl. 16°.

Seelye (Elizabeth Eggleston). Saratoga and Lake Champlain in history. *Lake George, N. Y.: Elwyn Seelye* [1898]. iv, 111 p., 1 map, 14 pl. 16°.

Stevens (J. A.) The Burgoyne campaign. An address delivered on the battle-field on the one hundredth celebration of the battle of Bemis Heights, September 19, 1877. *New York: A. D. F. Randolph & Co.*, 1877. 43 p. 8°.

Stone (W. L.) The campaign of Lieut.-Gen. John Burgoyne, and the expedition of Lieut.-Col. Barry St. Leger. *Albany: J. Munsell*, 1877. 12, 9-461 p., 1 fac-sim., 1 map, 7 port. 12°.

— Memoir of the centennial celebration of Burgoyne's surrender, held at Schuylerville, N. Y., under the auspices of the Saratoga Monument Association on the 17th of October, 1877. *Albany: J. Munsell*, 1878. 189 p., 1 pl. 8°.

Wilson (D.) The life of Jane McCrea, with an account of Burgoyne's expedition in 1777. *New York: Baker, Godwin & Co.*, 1853. 155 p. 12°.

Luzerne.

Butler (B. C.) 1776-1876. From home-span to calico. A centennial address delivered at Luzerne, July 4, 1876. *Albany: Weed, Parsons and Co.*, 1877. 52 p. 8°.

Queensbury.

Gresham (The) Publishing Company. History and biography of Washington County and the town of Queensbury, New York, with historical notes on the various towns. *Richmond, Ind.: Gresham Publishing Co., 1894.* xii, 436 p., illus. 4°.

Holden (A. W.) A history of the town of Queensbury... New York, with biographical sketches of many of its distinguished men, and some account of the aborigines of northern New York... viii, 1 l., 519 p., 5 pl., 15 port. *Albany, N. Y.: J. Munsell, 1874.* 8°.

ROBERT FULTON

Books by Fulton.

Fulton (Robert). Account of the Powles Hook steam ferryboat, in a letter to Dr. David Hosack, from Robert Fulton, Esq. Fellow of the American Philosophical Society, &c. (In: *The American Medical and Philosophical Register*... Vol. 3. *New York, 1813.* pp. 196-203. 8°.)

— The advantages of the proposed canal from Lake Erie, to Hudson's river, fully illustrated in a correspondence between the Hon. Gouverneur Morris, and Robert Fulton, Esq. *n. p. [1814?]* 13 p. 8°.

— Plan for supplying the City of New-York with fuel. By the New-York Coal Company. [By Robert Fulton.] *New York: T. & J. Swords, 1814.* 6 p. 8°.

— Torpedo war, and submarine explosions. *New York: W. Elliott, 1810.* 57 (3) p., 5 pl. 1. 8°.

— Same. Reprinted in "American State Papers," Vol. [1.] Naval Affairs. *Washington, 1834.* pp. 211-227. f°.

— A treatise on the improvement of canal navigation; exhibiting the numerous advantages to be derived from small canals... *London: T. & J. Taylor, 1796.* xvi, 144 p., 17 pl. 4°.

— Another copy, on the fly leaves of which are written in Fulton's hand (1) a letter to Bonaparte dated 12 floreal an 6 [1 May 1798], (2) Observations sur les avantages dont jouiroit la France en adoptant le système des petits canaux, (3) Sur la liberté du commerce et pourquoi les possessions et les droits sur les importations, loin d'être un bien pour les nations, ne font que leur nuire.

This copy is bound in the original calf, gilt tooling. It bears the armorial book plate of Chies. de Recicourt. Fulton's letters were printed from this text in the "Bulletin of the New York Public Library," v. 5, pp. 348-365 (New York, 1901).

Manuscripts Connected with Fulton.

(The arrangement is chronological.)

Fulton (Robert), *Father of the Inventor*. Note, 1 June, 1761, to Seth Duncan, for 16 l. Pennsylvania currency, due 1 June 1762. A. D. S. Receipt on back. 8°.

— Recherches sur les moyens de perfectionner les canaux de navigation, et sur les nombreux avantages de petits canaux... *Paris: Dupain-Triel, an VII [1799].* xvi, 224 p., map, 6 pl. 8°.

Fulton (Robert), and ROBERT R. LIVINGSTON. Licence, 20 Aug. 1808, to John R. Livingston, allowing him to operate a steam ferry between New York and New Jersey, the grantee to pay the grantors one-sixth of his gross monthly receipts. Certified copy, dated Albany, 22 Mar. 1814, attested by William James. Endorsed. 3 p., 1 l. f°.

Fulton (Robert). Washington, Oct. 12, 1808. To —. In answer to his correspondent's letter from New York; feels the force of his arguments on concave bottoms, Smallman's opinion being to same effect; refers to three accompanying drawings to show his own ideas as to boilers. A. L. 2 p. f°.

Fulton (Robert). Estimate of the expence of a steam ferry boat for one year. 22 Jan. 1810. Total amount \$4,160. A. D. S. 1 p. 4°.

Emmet (Thomas Addis). Opinion given to Livingston and Fulton, dated New York, 19 Jan. 1811, to the effect that (1) after the adoption of the Federal Constitution no state legislature had any authority to grant an exclusive right of making any machine or invention, (2) even supposing such state laws valid there exists no pecuniary penalty to be enforced. D. S. Endorsed. 6 l. f°.

Hudson River Steam-Boat Stock. Subscription certificate of Samuel Jones, jr., for one share, \$500. \$200 paid in and receipted for by Robert Fulton, 1 Aug. 1814. Printed form filled in. No. 334. D. S. 1 p. 8°.

Fulton (Robert). New York, 7 Nov. 1814. To Commodore [Isaac] Chauncey. Requesting information as to whether ice on Lake Ontario would bear sledges carrying 2-4 tons, what numbers and classes of boats Chauncey has; wishes Chauncey had a good steam frigate such as Fulton is about finishing. A. L. S. Endorsed. 2 p. 4°.

Fulton (Robert). New York, Nov. 23, 1814. To Gen. Jonathan Williams, Philadelphia. In answer to Williams' letter of 19th; gives his estimates of dimensions and costs of steam frigate; hull might be built at Philadelphia, but he cannot entrust the construction of the machinery to any one but himself. A. L. S. 4 p. 4°.

Emmet (Thomas Addis). New York, 23 Mar. 1815. To Henry Baldwin, Pittsburgh. Explaining that Robert Fulton in his examination at Trenton was not guilty of proving falsely a letter said to have been written by him to Lord Stanhope about 1793. A. L. S. Endorsed. 3 p. 4°.

New York (State).—**Fulton, Heirs of, Committee on**. Report of Select Committee on petition of Harriet Dale, widow of Robert Fulton, in behalf of his infant children, recommending favorable action. [2 Feb. 1825.] Holograph of S. L. Gouverneur, chairman. 3 l., and endorsement. 4°.

Printed in New York Assembly Journal, 48th Session, pp. 440-442.

Works about Fulton.

American Society of Mechanical Engineers. Trinity Church, New York. Form of service December 5th, 1901... on the occasion of the unveiling of a monument erected... by the Society to the memory of Robert Fulton. [*New York: A. Livingston, 1901.*] 4 l. 8°.

Works about Fulton, cont'd.

— Robert Fulton memorial. [Dedication ceremonies of monument.] 1 port. (Amer Soc. Mechanic. Engineers. Transac. v. 24, pp. 1493-1538. *New York*, 1903.)

— Robert Fulton. Memorial erected by the American Society of Mechanical Engineers. (Iron Age. v. 68, pp. 5-8. *New York*, 1901.)

Bryson (J. H.) The inventors of the Scotch-Irish race. (In: Scotch-Irish Society of America, Proceedings and Addresses of the 4. Congress, 1892, pp. 174-188. 8°.)

Robert Fulton, on pp. 175-178.

Carey (Mathew). To the citizens of the United States. Robert Fulton, [Appeal for the collection of a fund for the benefit of F's children, signed Philo-Fulton, i.e., M. Carey. *Philadelphia*, 1828.] 2 p. 8°.

— The life of Robert Fulton... account of the invention, progress, and establishment of steamboats; of improvements in the construction and navigation of canals, and other objects of public utility. With an appendix. vi, 371 p., 2 port., 1 tab. *New York: Kirk & Mercein*, 1817. 8°.

Read before the Literary and Philosophical Soc. of New York.

— A vindication of the steamboat right granted by the state of New York, in the form of an answer to the letter of Mr. Duer... *Albany: Websters & Skinners*, 1818. 2 p.l., 3-178 p. 8°.

Dickinson (H. N.) Fulton in England. illus. (Cassier's Maga. *New York*, 1908. 8°. v. 33, pp. 602-613.)

Duer (William Alexander). Letter addressed to C. D. Colden. in answer to the strictures in his "Life of R. Fulton," upon the report of the select committee, relative to steam navigation. *Albany*, 1817. 8°.

— A reply to Mr. Colden's Vindication of the steamboat monopoly, etc. *Albany*, 1819. 7-184, xxiv p. 8°.

Examination of the chancellor's opinion in the case of Rob. R. Livingston and Rob. Fulton, vs. James Van Ingen, Lansing & others. [*Albany:*] *Albany Register*, 1812. 54 p. 8°.

Fulton (Robert), and EDWARD P. LIVINGSTON. In Assembly, March 18., 1814. Memorial & petition of R. Fulton & E. P. Livingston, in behalf of themselves, and the heirs of the late Robert R. Livingston. [*Albany*, 1814?] 15 p. 8°.

Fulton Trust Company of New York. Life of Robert Fulton. *New York: Fulton Trust Co.*, 1906. 16 p. 8°.

Hubert (Philip G.) Inventors. *New York: Chas. Scribner's Sons*, 1896. 1 p.l., 299 p. illus. 8°. (Men of Achievement Series.)

Has a chapter on Robert Fulton.

Livingston (Edward P.) See **Fulton** (Robert), and EDWARD P. LIVINGSTON.

Livingston (Robert R.) The invention of the steamboat, an historical account of the application of steam for the propelling of boats; a letter to the editors of the "American medical and philosophical register," published in that journal in January,

1812, v. 2, p. 256. 16 p. (Old South leaflets [general ser.] no. 108. *Boston*, 1900.)

Contains also, Robert Fulton to Aaron Ogden (1814) on the invention of the steamboat; Fulton's letters on the first voyage of the Clermont; Reminiscences of H. Freeland in a letter to J. F. Reigart, 1846.

Melville (George W.) Robert Fulton. Address read at the Fulton memorial exercises, by George W. Melville, Rear-Admiral and Engineer-in-Chief, U. S. N., December 5, 1901. (Scientific Amer. suppl. v. 52, pp. 21716-21717. *New York*, 1901.)

Montgéry (). Notice sur la vie et les travaux de Robert Fulton. *Paris: Bachelier*, 1825. 1 p.l., 70 p. 8°.

With autograph of author.

Morrison (J. H.) Robert Fulton and the sidewheel steamboat. (Scientific Amer. suppl. v. 97, pp. 282-283. *New York*, 1907.)

New York (State). Courts. In Chancery. Robert R. Livingston & Rob. Fulton vs. James Van Ingen, Lansing and others. [Chancellor's Decision.] n. p. [1812] 15 p. 8°.

— The opinions of the judges of the supreme court, delivered in the court of errors, in the cause of Robert R. Livingston and Robert Fulton, vs. James Van Ingen, and twenty others. *Albany: S. Southwick*, 1812. 12, 12, 24 p. 8°.

— Governor. [Message to the Legislature concerning celebration of the 300th anniversary of the discovery of Hudson River by Hendrick Hudson in 1609 and of the centennial anniversary of the first use of steam in the navigation of the Hudson River by Robert Fulton in 1807.] *Albany* Feb. 19, 1906. *Albany*, 1906. 2 f. 1°.

Pascal (Félicien). Napoléon 1^{er} contre les torpilleurs. (Rev. polit. & littér. ser. 5, v. 1, pp. 274-278. *Paris*, 1904.)

Reigart (J. Franklin). The life of Robert Fulton... *Philadelphia: C. G. Henderson & Co.*, 1856. xxvii, 29-40, 2 l., 41-297 p., 23 pl., 2 port. 8°.

Renwick (James). Life of Robert Fulton. (In: The Library of American Biography, conducted by Jared Sparks. Vol. 10, pp. 1-89. *Boston*, 1838. 12°.)

Review (A) of the letter addressed by William Alexander Duer... to Cadwallader Colden... in answer to strictures contained in his "Life of Robert Fulton," relative to steam navigation. With an appendix containing the acts of the legislature. *New York*, 1818. 27 p. 8°.

Richards (T. Addison). The Fulton folly, or, The first steamboat: a romance of American biography. (Orion: a monthly magazine of literature and art. *Athens & Penfield, Ga.*, 1843. v. 3, pp. 29-39.)

Loaned by Seymour Dunbar.

Robert Fulton Centennial. A portion of the addresses delivered at the public meeting held under the auspices of the American Scenic and Historic Preservation Society in the building of the New York Historical Society... November 14, 1907, upon the one hundred and forty-second anniversary of the birth of Robert Fulton... (In: American Scenic and Historic Preservation Society, Thirtieth Annual Report, 1908, pp. 249-268. *Albany*, 1908. 8°.)

Works about Fulton, cont'd.

Suplee (Henry Harrison). *Fulton in France*. illus. 1 port. (Cassier's Maga. v. 32, pp. 405-419. *New York*, 1907.)

Thompson (Waddy). *Speeches... on the bills for the relief of the heirs of Robert Fulton, and to remove the new Treasury building*. Delivered in the House of Representatives, March 30 and April 17, 1838. *Washington: Gales & Seaton*, 1838. 8 p. 8°.

Thurston (R. H.). *Robert Fulton: his life and its results*. *New York: Dodd, Mead, & Co.* [cop. 1891] 2 p.l., 194 p., 1 port. 12°. (Makers of America.)

Todd (Charles Burr). *Life and letters of Joel Barlow, LL.D. Poet, Statesman, Philosopher*. With extracts from his works and hitherto unpublished poems. *New York: G. P. Putnam's Sons*, 1886. iv, 306 p., 1 fac., 1 port. 8°.

Contains material relative to Robert Fulton, and his steamboat.

— The beginning of steam navigation, 1807-1812. (In: *Memorial History of the City of New York*... Edited by J. G. Wilson. *New York*, 1893. Vol. 3, pp. 184-214. 4°.)

United States. Report [favorable] of the select committee on petition for relief of the orphan children of Robert Fulton. Feb. 2, 1829. *n. l. p.* 6 p. 8°. (20 Cong., 2 sess. H. rpt. 64.)

— Report [favorable of] the select committee to which was referred the petition of the orphan children of... Robert Fulton, Mar. 3, 1830. *n. l. p.* 3 p. 8°. (21. Cong., 1 sess. H. rpt. 267.)

— Documents relating to the claim of the heirs of Robert Fulton, January 26, 1841. *n. l. p.* *Washington: Blair & Rives* [1841]. 22 p. 8°. (26. Cong., 2. Sess. S. doc. 193. Navy Department.)

— Report [unfavorable of] the Committee of Claims on memorial, and sundry documents pertaining to the claim of the heirs of Robert Fulton, against the United States. Feb. 17, 1842. *n. l. p.* 4 p. 8°. (27. Cong., 2. sess. S. doc. 127.)

— Report [favorable] of Committee of Claims on petition of heirs of Robert Fulton... Apr. 12, 1842. *n. l. p.* 40 p. 8°. (27. Cong., 2. sess. H. rpt. 588.)

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De Peyster (Frederic). A biographical sketch of Robert R. Livingston. Read before the N. Y. Historical Society, Oct. 3, 1876, by the President. 38 p., 1 port. *New York: the Society*, 1876. 4°.

Fleming (Walter L.). The public career of Robert Livingston. (N. Y. Geneal. and Biog. Rec. v. 32, pp. 129-135; 193-200. *New York*.)

Francis (J. W.). An address delivered on the anniversary of the Philolexian society of Columbia College, May 15, 1831. 2 l., 7-43 p. *New York: G. & C. & H. Carvill*, 1831. 8°.

Livingston (Robert R.). *Essay on sheep; their varieties—account of the merinoes of Spain, France, etc... with... remarks on sheep and woolen manufactures*. Printed by order of the Legislature of... New York. *New York: T. and J. Swords*, 1809. 186 p., 1 port. 8°.

— Instructions of Mr. Livingston, secretary of state, to Dr. Franklin, January 7, 1782, taken from the original manuscript in the department of state. [*Washington*] n. d. 17 p. f°. (United States—State department.)

— Letters to Chancellor Livingston from Richard Montgomery, John Jay, Washington, Gouverneur Morris, members of the Livingston family, and others: and some by Livingston, 1775-1799, dealing with the revolution and its effects in New York, the northern campaigns of 1776 and 1777, and national affairs after the war. 180 transcripts. 1840? 2 vol. 4°.

Moore (John Bassett). Robert R. Livingston and the Louisiana purchase. 1 pl. (Columbia Univers. Quar. v. 6, pp. 221-229. *New York*, 1904.)

Palmer (Erastus Dow). Palmer's statue of Robert R. Livingston, first chancellor of the State of New York. [*New York*, 1884.] 16 p. sq. 16°.

JOHN FITCH.

Barnes (Joseph). Remarks on Mr. John Fitch's reply to Mr. James Rumsey's pamphlet. *Philadelphia: Printed by J. James*, 1788. xvi, 16 p. 4°.

Fitch (John). The original steam-boat supported; or, A reply to Mr. James Rumsey's pamphlet, shewing the true priority of John Fitch, and the false datings, &c., of James Rumsey. *Philadelphia: Zachariah Poulson, junr.*, 1788. 34, 20 p. 8°.

First issue, with contemporary manuscript corrections in ink.

The 20 pages at the end contain Fitch's reprint of Rumsey's Plan.

— *Philadelphia: Zachariah Poulson, junr.*, 1788. 34 p. 8°.

Second issue, partly reprinted, with corrections. The reprint of Rumsey's Plan is lacking.

— (Reprinted in *Documentary History of the State of New York*. *Albany*, 1850. v. 2, 4. ed., pp. 603-626. 8. ed., pp. 1040-1078.)

— [Philadelphia? Month? 22, 1792.] To John Nicholson. Fitch had called on Voigt but failed to see him. He will make Nicholson a conveyance as partner; it will not be possible for Voigt to make any disturbance for Fitch can take the patent from him at any time. A. L. S. Endorsed. 1 p. 4°.

Manuscript.

Stearns (E. S.). Address [at the dedication of the Fitch memorial tablet, July 4th, 1894]. (In: *Fitchburg hist. soc. Proceedings*... *Fitchburg, Mass.*, 1895. v. 1, pp. 234-252.)

Westcott (Thompson). Life of John Fitch, the inventor of the steamboat. *Philadelphia: J. B. Lippincott & Co.*, 1857. 1 p.l., xxiv, 25-415 p., 1 pl. 12°.

Newspaper clippings relating to the inventor of the steamboat inserted.

Whittlesey (Charles). Justice to the memory of John Fitch: who in 1785 invented a steam engine and steam boat, planned, constructed and put in operation the steamboat "Perseverance"... in 1788. *Cincinnati: Daily Atlas off.*, 1845. 12 p. 4°.

Repr.: West. lit. journ. & month. rev. Feb. 1845.

John Fitch, cont'd.

— Fugitive essays... relating to the early history of Ohio... with a biography of the first successful constructor of steamboats; a dissertation upon the antiquity of the material universe, and other articles, being a reprint from various periodicals... *Hudson, O... Sawyer, Ingersoll & Co., 1852.* 397 p. 12°. pp. 205-16 wanting.

JAMES RUMSEY.

Rumsey (James). A Short Treatise on the application of Steam, whereby is clearly shown, from actual experiments, that Steam may be applied to propel Boats or Vessels of any burthen against rapid current with great velocity. Great Velocity [*sic*]. The same principles are also introduced with effect by a Machine of a simple and cheap [*sic*]. Construction, for the Purpose of raising Water sufficient for the working of Grist-Mills, Saw-Mills, &c. And for Watering Meadows and other Purposes of Agriculture. By James Rumsey, of Berkeley County, Virginia. *Philadelphia, Printed by Joseph James: Chestnut-Street, 1788.* 26 p. 8°.

— [Second issue.] *Philadelphia, Printed by Joseph James: Chestnut-Street, 1788.* 26 p. 8°.

"Great Velocity" is not repeated; "cheap" is printed correctly.

— (Reprinted in: Documentary History of the State of New York. *Albany, 1850.* 4°. v. 2, pp. 585-600. 8°. v. 2, pp. 1011-1035).

— Same, separate. 4° and 8°.

— A Plan wherein the power of steam is fully shown, By a new constructed Machine, for propelling Boats or Vessels, of any burthen, against the most rapid streams or rivers, with great velocity. Also, a machine constructed on similar philosophical principles, by which water may be raised for Grist or Saw-Mills, watering of Meadows, &c., &c. 20 p. 8°. (Reprinted in John Fitch's Original steam boat supported. *Philadelphia, 1788.*)

STEAMBOATS AND STEAM NAVIGATION.

Account of the origin of steam-boats, in Spain, Great Britain, and America; and of their introduction and employment upon the river Thames, between London and Gravesend, to the present time. *London, 1831.* pl. 8°.

Almeida (Camena d'). Le centenaire de la navigation à vapeur sur le L'Exposition Maritime de Bordeaux. (1807-1907.) (Correspondant. Année 79, pp. 653-678. *Paris, 1907.*)

Anty (Pierre Bons d'). État actuel de la navigation à vapeur sur le haut Yang-tseu-Kiang. (La géog. année 1902, pp. 89-94. *Paris, 1902.*)

Armstrong (Robert). High speed steam navigation and steamship perfection... *London, 1859.* 8°.

Battle (A. E.). The history and development of the marine engine. 2 pl. (*Nautical Mag.* v. 77, pp. 32-39; 102-103; 188-192; 287-291; 380-385; 400-495; v. 78, pp. 28-33, 89-94, 228-232, 277-283, 399-402, 465-469. *London, 1907.*)

Buckman (David Lear). Old steamboat days on the Hudson River. Tales and reminiscences of the stirring times that followed the introduction of

steam navigation. *New York: The Grafton Press [1907].* vi, 3 l., 143 p., 20 p.l., 1 port., 1 table. 12°. (The Grafton historical series.)

Bullock (Seymour). The development of steam navigation... (In: *Connecticut Magazine*, vol. 9, pp. 440-455, 765-774; vol. 10, pp. 97-108, 298-315, 439-460, 695-714; vol. 11, pp. 49-64, 246-249. *New Haven, 1905-'07.* 8°.)

— The "miracle" of the first steamboat. The tragedy of an American genius... illus. (*Jour. of Amer. Hist.* v. 1, pp. 33-48. *New Haven, 1907.*)

— Who built the first steamboat? (Cassier's *Maga.* v. 33, p. 280-292. *New York, 1907.*)

— Anniversary of American commerce. Tercentenary of the building of the "Virginia," the first ship constructed on the western continent. Centennial of the "Clermont." Rise of the American merchant marine and the development of navigation since John Fitch of Connecticut and Robert Fulton. (In: *Connecticut Magazine*, Vol. 11, 1907. *New Haven, 1907.* pp. 361-398. 8°.)

Busley (Carl). The development of the marine engine in the last decades. [Read before the Society of German Engineers, in 1888, extracts translated by F. C. Bieg.] (*Amer. Soc. Naval Engineers.* *Jour.* v. 1, pp. 151-162. *Washington, 1889.*)

Claxton (Christopher). Logs of the first voyage, made with the unceasing aid of steam, between England and America, by the Great Western, of Bristol; also an appendix and remarks. *Bristol [1838?].* 8°.

Cleland (J.). Historical account of the steam engine and its application in propelling vessels: with an account of the number and uses of the steam engines in Glasgow, and number of steam boats on the Clyde, in the years 1825 and 1829; population and statistical tables, births, marriages, and burials. *Glasgow: E. K'hull & Son, 1829.* 1 p.l., 68 p., 1 l. 8°.

Cochrane (Robert). William Symington and the beginnings of steam navigation. illus. (Cassier's *Maga.* v. 32, pp. 525-538. *New York, 1907.*)

Colden (Cadwallader David). Account of the Invention, Progress, and Establishment of Steamboats. (In *Colden's Life of R. Fulton.* *New York, 1817.* 8°.)

Dewey (T. M.). Early navigation of the Connecticut River. The first steamboat. (In: *Conn. Valley Hist. Soc., Papers and Proceedings, 1876-81*, pp. 114-122.)

Dodd (George). An historical and explanatory dissertation on steam-engines and steam packets, with the evidence... given... to the select committees of the House of Commons;... with a narrative by Isaac Weld, Esq. of the interesting voyage of the Thames steam yacht from Glasgow... to Dublin and London.. *London: J. Asperne, 1818.* 2 p.l., xxv, 1 l., 280 p., 3 pl. 8°.

Fitch (Winchester). American pioneers of steam navigation. (American scenic & historic preservation Society. 11th annual report. pp. 213-238. *Albany, 1906.* 8°.)

— (Mag. of Hist. with Notes and Queries. vol. 4, pp. 326-343. 1906.)

amboats and Steam Navigation, cont'd.

Fry (H.) The history of North-Atlantic steam rigation with some account of early ships and powners... *London: Samson Low, Marston & 1896.* xiv, 324 p., 36 pl., 1 map. 12°.

Geschichte des Dampfschiffs-wesens im Nord-antischen Ozean. (Archiv. f. Post u. Telephie. v. 27, pp. 461-471. *Berlin*, 1900.)

Goddard (Dwight). A short story of William nington. *Worcester, Mass.: Wyman & Gorz, 1904.* 4 l., pl. 12°.

Haswell (Charles H.) Early marine engineer-; in the United States. (Engineering. *London*, 98. f°. v. 65, pp. 515-516.)

— Reminiscences of early marine steam en-ue construction and steam navigation in the ited States of America, from 1807 to 1850. *arine Engineering.* v. 4, pp. 6-9. *New York*, 99.)

— The early marine steam engine. (Sci. and dustry. v. 6, pp. 229-234. *Scranton, Pa.*, 01.)

Hulls (Jonathan). A Description and Draught a new-invented Machine For carrying Vessels Ships Out of, or Into any Harbour, Port or ver, against Wind and Tide, or in a Calm... *ndon: Printed for the Author, 1737.* 48 pp., pl. 12°.

— [Reprinted (at London ?) in 1855, for Sheepshank.] 4°.

This copy is no. 2 of the 12 reprinted on old paper, large per size; it has a presentation inscription to James Lenox J. Sheepshank's autograph.

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These are the originals reproduced in the "Early History of Steam Navigation" in "The Rudder," 1907, volume 18.

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PRINTS.

1. HENRY HUDSON AND THE DISCOVERY OF THE HUDSON RIVER.
2. THE HUDSON RIVER FROM NEW YORK CITY TO THE SOURCE.
3. ROBERT FULTON AND EARLY STEAM NAVIGATION.

With the exception of a number of prints, mainly relating to steam navigation, loaned by Mr. Seymour Dunbar, which are indicated by an asterisk at the beginning of the title, the prints here listed are the property of the Library. The letters EM followed by a number, after a title, indicate that the print in question bears that number in the collection of extra-illustrated volumes formed by Dr. T. A. Emmet and now in possession of the Library.

The notes following items marked with the asterisk are by Mr. Dunbar.

Sizes are given in inches, height always first.

HENRY HUDSON AND THE DISCOVERY OF THE HUDSON RIVER.

1. [Henry Hudson, by Count Pulaski.] 8 9/16 x 7 1/16. Photograph of the painting attributed to Count Pulaski in the City Hall, New York.

All the engraved portraits of Hudson are based on this original.

An article on this portrait in the *SWN* (N. Y.) April 1, 1906, recounts the attempts of Meredith Read and Gen. J. G. Wilson to trace the source of the painting. Its authenticity has not been established, though E. J. Lossing once thought ("The Hudson," N. Y., 1866, p. 1) that "conjecture shrewdly guesses" that it was by Paul Van Someren!

Gen. J. Meredith Read, in his article on Henry Hudson in "Appieton's Cyclopædia of American Biography," vol. 3, N. Y., 1892, says, p. 298: "There is no authentic portrait or autograph of Hudson . . . It is possible, however, that his intimate friend, Jodocus Hondius, engraved Hudson's portrait, and that it may yet be found."

2. *HENDRICK HUDSON*. Left: *S. W.* [monogram]; right: *J. W. ORR N. Y.* Vign. 4 1/4 x 3 3/8. Wood engraving after Samuel Wallin. At head of printed biographical sketch, beginning: "Hendrick or Henry Hudson, as he is more usually known." Picture and text enclosed in a border of two lines.

From "The Illustrated American Biography . . . By A. D. Jones," vol. 2, N. Y., 1854, p. 23.

3. — Same, without border.

From "The American Portrait Gallery," N. Y., 1858, p. 287.

4. *HENRY HUDSON*. | *Designed and etched for Bancroft's History of the United States*. On rock in foreground: *Sep. 1609. 3 1/2 x 6 1/8*. Vign. Line engraving.

5. *HENRY HUDSON*. Centre: *Engd by E. G. Williams & Bro N. Y.* 4 15/16 x 3 13/16. Line engraving.

In James Grant Wilson's "Memorial History of the City of New York," vol. 1, New York, 1892, opp. p. 108.

6. *HUDSON RECEIVING HIS COMMISSION FROM THE DUTCH EAST INDIA COMPANY*. | *From the original painting by Chappel in the possession of the publishers*. Centre above title: *Entered according to act of Congress A D 1870 by Johnson, Fry & Co in . . . New York*; centre below: *Johnson, Fry & Co.—Publishers, New York.* 5 3/16 x 7 3/4. Line engraving.

7. *THE FLAG OF THE DUTCH EAST INDIA COMPANY*. | *D. T. Valentine's Manual 1863*. Lithograph, colored.

In "Valentine's Manual," 1863, opposite p. 834.

"The flag under which [Hudson] sailed was that of the Dutch East India Company, which was the flag of the United Provinces of the Netherlands—orange, white, and blue, arranged in three equal horizontal stripes; in the centre of the white stripe the letters A. O. C.—*Algemene Ost-Indische Compagnie*—The General East India Co."—D. T. Valentine (who availed himself of information gathered by A. K. Gardner) in his "Manual" for 1863, p. 835. Some issues of the manual have this flag reproduced opposite p. 834, while in others the flag of the Dutch West India Company appears instead. The latter has the same colors, but the letters G. W. C. instead of A. O. C.

The lettering is corrected by A. J. F. Van Laer, Archivist, New York State Library, who writes in a letter of July 28, 1900, that the flag bore "presumably in the centre the monogram of the Dutch East India Company, VOC, meaning Vereenigde Ost Indische Compagnie, with an A above it, to indicate that the ship was sent out by the Amsterdam Chamber of that company."

8. *HENDRYK HUDSON ON THE DECK OF THE "HALF MOON."* | *From a painting, copyright, 1904, by George Wharton Edwards.* 5 3/8 x 4 3/4. Half-tone.

In "The Lamp," June, 1904, p. 424.

The painting is a panel decoration in the officer's mess hall at West Point. Reproductions in half-tone appeared also in the "International Studio," vol. 23, 1904, p. cccxi (6 1/2 x 5 7/8), showing an ornamental frame lettered *HENDRYK HUDSON (1609)*. "The Critic," vol. 45, Aug., 1904, p. 108, and the "N. Y. Tribune," April 10, 1904.

9. *Arrival of Hudson at Sandy Hook, 1609, p. 3*. In lower left corner: *MUMFORD.* 2 3/8 x 3 15/16. Wood engraving.

In John F. Watson's "Annals and occurrences of New York City and State . . ." Phila., 1846, oppos. p. 48.

10. "Henry Hudson entering New York Bay." Half-tone reproduction of a painting by Edward Moran. 3 9/16 x 6 1/4.

From T. Sutor's "Thirteen Chapters of American history," 1905.

- 10 1/2. *DISCOVERY OF THE HUDSON BY HENDRICK HUDSON | PAINTED BY | ALBERT BIERSTADT.* 5 3/16 x 8 3/16. Photograph of painting and frame.

The original painting is in the House of Representatives, Washington, in a panel near the South doors.

11. *THE HALF MOON*. Vignette. 3 1/16 x 3 3/8. Wood engraving.

The ship surrounded by Indian canoes; the Palisades to the

Prints, Henry Hudson, cont'd.

right. In "New York City during the American Revolution. . . From manuscripts in the possession of the Mercantile Library Association," 1861. Extra-illustrated; frontispiece.

The scene has naturally been often illustrated: for instance in "Munsey's Magazine," July, 1900, p. 465, and in a small wood-cut by Whitney & Jocelyn, on the cover of "New York Historical Society. Fifty-third anniversary . . ." 1857.

The Henry Hudson Memorial window, presented to the New York Historical Society by the Society of Holland Dames, also shows the "Half-Moon" surrounded by Indian canoes. A picture of it appears in N. Y. Herald, Feb. 21, 1900. Another stained glass window, picturing the "Half Moon," is in the rooms of the Albany Chamber of Commerce, and is reproduced in "Albany, New York," a pamphlet published in 1900? by the Chamber.

Wm. Elliot Griffis, in his "Story of New Netherland," Boston and N. Y., 1900, oppos. p. 78, reproduces the title-page of "Redres van de Abuysen ende Faulten in de Colonie van Renesselaers-wijk," Amsterdam, 1643, on which is pictured a ship "bearing dutch colonists."

- 11 $\frac{1}{2}$. "The 'Half-Moon' on the Hudson—1609
From a painting by L. W. Seavey." $3\frac{1}{2} \times 5\frac{1}{2}$.
Photogravure.

In Edgar M. Bacon's "The Hudson River," N. Y., 1902, frontisp.

Reproduced also, with the title *THE "HALF MOON" ON THE HUDSON*, left, below: *From the painting by L. W. Seavey, in State Capitol, Albany*, in "The Sloops of the Hudson," by W. E. Verplanck and M. W. Collyer, N. Y., 1908, frontisp.

12. *THE HALF MOON. | Pictures from
BUIEN. — DECK VIEW LOOKING
AFT.—LOOKING FORWARD BETWEEN
DECKS SHOWING OLD CANNON.* Three
half-tones. Proofs.

Pictures of the reproduction of the "Half-Moon," built for the Hudson-Fulton celebration of 1909. Published in the "New York Herald," 1909. Reproduced from "Buiten," a Dutch publication. Other pictures of this modern "Half-Moon," in various stages of construction, appeared in the "New York Times," May 30, 1909, and July 11, 1909, and the "New Yorker Staats-Zeitung," July 23, 1909, and July 24, 1909, and the "N. Y. Herald," Aug. 1, 1909.

- 12 $\frac{1}{2}$. *Hudson discovering the North River.* $3\frac{1}{2} \times 6\frac{1}{2}$.
Wood engraving. Caricature.

13. *LANDING OF HENDRICK HUDSON. |
From the original Picture by R. W. Weir in the
possession of Gulian C. Verplanck, Esq.* $5\frac{1}{2} \times 7\frac{1}{2}$.
Line engraving.

a. As described. EM. 10379.

b. With oblique lines added in the sky, title as above, and rest of inscription changed to: left: *Painted by*; right: *Rob't W. Weir [sic?]*; centre, below title: *Entered according to act of Congress A.D., 1800 by Johnson, Fry & Co. in . . . New York.*

14. *Landing of Hendrick Hudson.*: centre above.
Below: *September 8th 1609.* Medallion, title in ornamental border, on certificate of membership of The St. Nicholas Society of the City of New York, issued to William F. Van Wagenen, *Lith. & Pr. in Colors by T. Sinclair, Phila.* $2\frac{3}{8} \times 1\frac{1}{8}$.
EM. 12264.

15. *INTERVIEW OF HENDRICK HUDSON WITH THE INDIANS.* Left: *Capt. S. Eastman U. S. Army*; right: *Robert Hinshelwood*; centre, above title: *Pl. 2*; centre below: *PUBLISHED BY LIPPINCOTT, GRAMBO & CO. PHILADA.* $5\frac{9}{16} \times 8\frac{5}{16}$.
Line engraving. EM. 10384.

a. As described.

From H. R. Schoolcraft's "History of the Indian tribes of the U. S.," Phila., 1857, oppos. p. 100.

b. Without publication line.

16. *The Half Moon ascending the river.* $3\frac{9}{16} \times 4\frac{1}{4}$. Arched top. Wood engraving.

In Mary L. Booth's "History of the City of New York," N. Y. 1867? p. 34.

17. *THE HALF MOON AT YONKERS.* A wood engraving, arched top; width, $4\frac{3}{4}$; at left, for a width of $2\frac{1}{2}$, it continues downward in a bust portrait of *HENRY HUDSON*; height at left $5\frac{3}{4}$, centre 6, right 3. Wood engraving.

In "Harper's Magazine," Sept. 1854, p. 433.

"Henry Hudson founding Nova Belgia."
See no. 420.

18. *Hudson, on his return to Holland received with great welcome by the Merchants and Burgomasters of Amsterdam.* Left: *Lith. G. Hayward 120 Water St.*; right: for D. T. Valentine's Manual for 1851. $3\frac{3}{8} \times 5\frac{15}{16}$.
Lithograph, one tint.

19. *HUDSON'S LAST VOYAGE.* Painting by the Hon. John Collier, in the National Gallery, London (Tate Gallery). *CARBON PRINT FROM THE ORIGINAL BY FRANZ HANFSTAENGL, MUNICH.* $13\frac{1}{2} \times 11\frac{3}{4}$.

Frequently reproduced; e. g., in E. M. Bacon's "Henry Hudson," N. Y., 1907, in "Harper's Weekly," Jan. 14, 1882, p. 20 (wood engraving by C. Roberts), and in "L'Art," 7^e année, tome 3, Paris, 1881, p. 203 (from a drawing by Charles E. Wilson).

THE HUDSON RIVER.

This list is one of prints illustrating the Hudson River from New York City to the Source. In order to fix some limit, only such have been included as actually show the river. (That excludes a picture of the Dutch church at Tarrytown, for instance, or the historic house at Tappan, and includes pictures of the Philipse manor at Yonkers, in which the river appears.)

As the purpose was to illustrate the river at every possible point along its banks, and at every possible time, not only the more important prints have been included, but also inferior wood-cuts and modern half-tones, whenever they served that purpose, and particularly whenever no better material was known or available. A particularly interesting publication, on account of its comprehensiveness, is the "Panorama of the Hudson," showing both sides of the river from New York to Albany as seen from the deck of the Hudson River Day Line Steamers represented from eight hundred consecutive photographs (copyrights 1906, by Wallace Bruce, N. Y.).

- 19 $\frac{1}{2}$. *WADE & CROOME'S | PANORAMA |
of the | HUDSON RIVER | FROM | NEW
YORK TO ALBANY. | Drawn from Nature
and Engraved by | WILLIAM WADE. | NEW
YORK: | PUBLISHED BY J. DISTURNELL,
| 102 Broadway between Pine & Wall Streets |
1846. | Copper Plates Printed by Burton. |
Entered according to Act of Congress, in the
year 1845, by William Wade in . . . New
York. | \$2.00 Colored)—Drawn to a scale of
One Mile to the Inch—(\$1.50 Plain) Engraved
title-page and plan enclosed in a ruled border.*

Prints, Hudson River, cont'd.

Size, including border, width $5\frac{1}{2}$, length about 133. Folded in covers. Uncolored copy.
Near the Palisades, the "Hendrik Hudson" is steaming up the River.

20. — Same, title re-engraved, with *ALBANY* changed to *WATERFORD* and a view of Cohoes Falls added beneath title. About 12 inches added to length. Colored copy.

The Bay, Harbor and Narrows.

See also views of the Battery and Castle Garden, *etc.* no. 249.

- 20½. [New York Harbor, 1776. The lower bay by moonlight; ships riding at anchor.] "An original sketch by an English officer on board of one of Adm! Howe's Fleet, while at anchor in the lower bay, previous to landing on Long Island at Graves-End." $9 \times 14\frac{1}{4}$. Water-color drawing. EM. 2583.

The inscription is in the handwriting of Dr. Emmet. From Lord Rawdon's collection.

21. [A view of New York Harbor, 1776.] "An original sketch by an English officer on board of one of Adm! Howe's Fleet, while at anchor in New York Harbor, just after the battle of Long Island." $8\frac{3}{4} \times 14\frac{1}{2}$. Water-color drawing. EM. 2584.

The inscription is in the handwriting of Dr. Emmet. From Lord Rawdon's collection. On the back is written in a contemporary hand: "When the Ships of War was going through the Narrows in New York Harbour."

22. *DENYSE'S FERRY, | the first place at which the Hessians and British landed on Long Island Aug. 22nd, 1776. NOW FORT HAMILTON.* Left: Lith. of A. Brown 9 & 11 Thames St., N. Y.; right: for Henry McClosley's Manual of 1867. $4 \frac{11}{16} \times 6 \frac{15}{16}$. Lithograph in tints. EM. 8149.

23. "Fort Lafayette (New York Harbor) 1840." S. Hollyer. Copyright 1908. $3\frac{1}{2} \times 5\frac{1}{2}$. Etching.

Hollyer's "Views of old New York."

24. *The NARROWS, (between Red and Yellow Hook, on Long Island, & the East Bluff of Staten Island,) bearing S. b. W. 3 5/16 x 18 1/2 in.* Aquatint, colored.

In "Atlantic Neptune," vol. 4, London, 1781, folio 25, no. 5.

— Same, uncolored, EM. 10668.

25. *THE NARROWS, | From the Pavilion, near the Quarantine Ground, Staten Island.* Left: Drawn by E. W. Clay; over left upper border: *PLATE I*; right: Engraved by R. Hinshelwood; right below: Printed by A. King. $4 \frac{13}{16} \times 7\frac{1}{4}$. Line engraving.

a. With scratched lettering. Centre: *The Narrows*; left: Drawn by E. W. Clay; right: Engraved by R. Hinshelwood; right, below: Printed by A. King. India paper.

In S. L. Knapp's "The picturesque beauties of the Hudson River and its vicinity," Proofs, N. Y., 1835, oppos. p. 11.

b. As described.

26. *THE NARROWS FROM STATEN ISLAND.* Left: W. H. Bartlett; right: E. Finde; centre below: London. Published for the

Proprietors by Geo. Virtue 26 Ivy Lane 1837.

$4 \frac{11}{16} \times 7$. Line engraving.

From Bartlett's "American Scenery," vol. 1, London, 1840, oppos. p. 34.

— Same, EM. 11354.

27. *THE NARROWS FROM STATEN ISLAND.* Left: W. H. Bartlett; right: Engraved by J. White; centre, below: Engraved for the *Columbian Magazine*; right, below: W. L. Ormsby Printer.

In "Columbian Magazine," June, 1847, oppos. p. 280.

Same design as preceding, with changes of figures in foreground, and in foliage at left in foreground; also with steamships and sailing vessels added.

28. *THE NARROWS. | (From Fort Hamilton.)* Left: W. H. Bartlett; right: R. Wallis; centre, below: London. Published for the Proprietors, by Geo. Virtue, 26 Ivy Lane, 1838. $4 \frac{13}{16} \times 7\frac{1}{8}$. Line engraving.

In W. H. Bartlett's "American Scenery . . ." vol. 1, London, 1840, oppos. p. 130.

29. *THE NARROWS. | (From Fort Hamilton.)* Left: W. H. Bartlett; right: Dick; centre, below: Engraved for the *Ladies Companion*.

Same design as preceding. In "The Ladies' Companion," vol. 12, New York, 1840, frontispiece.

— Same, without names of artist and engraver, and with inscription in centre, below, changed to: *Engraved expressly for the Rover*.

30. *THE NARROWS. | (From Fort Hamilton.)* Left: W. H. Bartlett; right: M. Osborne; centre, below: Engraved for the *Ladies Wreath*. $4\frac{1}{2} \times 7\frac{1}{8}$. Line engraving.

Same design as no. 28, with minor figures removed and added work on water at left.

31. *Fort Hamilton and the Narrows.* Left: W. H. Bartlett; right: E. O. Freeman. $4 \frac{13}{16} \times 7$. Line engraving. [185-?]]

Same design as no. 28, steamer substituted for sailing vessel in front of Fort Lafayette, and three soldiers in foreground at right.

32. *VIEW OF THE NARROWS | FROM STATEN ISLAND.* Left: From Nature & on Stone; right: by Chas. Gildemeister; centre: Entered according to act of Congress in the year 1851 by Emil Seitz, in the Clerk's Office of the District Court of the South. Dist. of N. Y. Border of one line. $7\frac{3}{8} \times 10 \frac{5}{16}$; to border, $8 \frac{11}{16} \times 11\frac{3}{8}$. Lithograph, colored. EM. 11937.

33. *Bay and Harbour of New York from Staten Island.* Left: Drawn by E. W. Clay; right: Engraved by J. A. Rolph; centre, below: Published for the *New York Mirror*. $4 \frac{9}{16} \times 7\frac{1}{4}$. Line engraving. 183-?

a. With scratched lettering. Centre: *New York from Staten Island*; left: E. W. Clay Delt.; right: J. A. Rolph Scd. India paper.

In S. L. Knapp's "The picturesque beauties of the Hudson River," Proofs, N. Y., 1835, oppos. p. 17.

b. As described.

— Same. EM. 11906.

34. *STAATEN-ISLAND | bei New York.* Right: Ahrens sc.; left below: Aus d. Kunstanst. d. Bibl. Inst. in Hildbh; right, below: Eigentum

Prints, Hudson River, cont'd.

d. *Verleger*; right, above: DCCV. Border of one dotted line. 4 3/16 x 6 3/16; to border, 4 3/8 x 6 3/8.

a. As described.

In "Meyer's Universum . . . Amerikanische Ausgabe," 4 Band, N. Y., 1852, oppo. p. 38.

b. With inscription changed to:

STAATEN-ISLAND

Left: *DRAWN AFTER NATURE*; right: *For the Proprietor HERMANN J. MEYER*; left, below: *Published for HERMANN J. MEYER, 164 William Str., NEW YORK*; right, below: *Copyright secured according to ACT of CONGRESS*.

In "The United States Illustrated," vol. 2, parts 8 and 9, New York [185-?], oppo. p. 151.

35. *NEW YORK-BAY | VON STATEN-ISLAND AUS GESEHEN.* | Left: *W. HEINE, NEW YORK, 1850, DEL.*; right: *JOHN POPPEL SCULPTIST*; centre, below: *In Meyer's Monatsheften (Published for HERMANN J. MEYER, NEW YORK)*. With border of one dotted line. 4 5/16 x 6 7/16; to border line, 4 7/16 x 6 1/2. Line engraving.

a. As described.

b. With inscription:

NEW-YORK-BAY | FROM STATEN-ISLAND, NEAR THE LIGHTHOUSE... Left: *W. HEINE, NEW YORK, 1850, DEL.*; right: *JOHN POPPEL SCULPTIST.* EM. 12050.

36. *VIEW OF THE MARINE HOSPITAL AND QUARANTINE GROUNDS, STATEN ISLAND, NEW YORK.* Left: *Lith. from Nature by G. Wenig, 333 Broadway, N. Y.*; right: *Printed by Brown & Quinlan, 179 Broadway, N. Y.* 1 3/8 x 2 6/8. Lithograph, in tints. EM. 11819.

37. *CITY OF NEW-YORK, BROOKLYN, JERSEY CITY & QUARANTINE STATION ON STATEN ISLAND.* Above, key to view. 2 15/16 x 10 7/8. Line engraving in color. EM. 12270.

38. *NEW-YORK QUARANTINE, STATEN ISLAND.* Right: *S. Skiles & Co., N. Y.* 3 3/8 x 5 15/16. Line engraving. About 1840. EM. 12246 and 12271.

39. *NEW-YORK BAY AND THE NARROWS.* Left: *Drawn from Nature by Aug. Köllner*; right: *Lith. by Derooy.—Printed by Cattier*; centre, above title: *New-York & Paris published by Goupil, Vibert & Co.* | 37; centre, below: *Entered according to act of Congress, in the year 1850, by Aug. Köllner, in the clerk's office of the District Court for the Southern District of New-York.* Border of two lines. 7 7/16 x 11 1/4; to border, 8 1/16 x 11 11/16. Lithograph, one tint. EM. 11909.

40. *VIEW OF THE NEW YORK QUARANTINE, STATEN ISLAND.* Left: *Lith. G. Hayward 120 Water St., N. Y.*; right: *For D. T. Valentine's Manual 1851.* 7 9/16 x 10 15/16. Lithograph, in color. EM. 11393.

41. *VIEW OF THE QUARANTINE GROUNDS AND BUILDINGS, STATEN ISLAND, MAY, 1858.* Left: *Lith. by Geo. Hayward, 120 Water St., N. Y.*; right: *for D. T. Valentine's Manual for 1859.* 5 3/4 x 17. Lithograph. EM. 6947.

In "Frank Leslie's" for Sep. 11, 1858, p. 238, there appears a picture of "The Quarantine buildings as they appeared before their destruction by the residents of Staten Island, Sep. 1, 1858." The ferry boat "H. B." is shown in the foreground.

41 1/2. *NEW BRIGHTON | STATEN ISLAND.* | *P. A. Mesier's Lith. 28 Wall St., New-York.* Vign. 7 3/8 x 18 5/8.

In "Description of New Brighton," (N. Y., April 15, 1836). On p. 18 the statement is made that the "two swift and beautiful steamboats, the New Brighton and the Water Witch," will make the trip to New York "in twenty minutes"!

42. *Glimpse of New York, from the Narrows.* [Showing the old Fort Tompkins Light-house, Staten Island.] 2 15/16 x 9 1/4. Wood engraving.

From "Picturesque America," N. Y., vol. 2, 1874, p. 547.

43. *VIEW OF NEW YORK BAY FROM PAVILION HILL, LOOKING OVER ST. GEORGE AND TOMPKINSVILLE, STATEN ISLAND (RICHMOND BOROUGH).* 6 7/16 x 21 9/16. Half-tone from photograph.

In "The New Metropolis, 1600-1906 . . . edited by E. I. Zeisloft" (N. Y., copyright 1899).

44. *Castle Williams from the Battery.* [182-?] Aquatint by C. F. W. Mielatz, 1905, from a "nine-inch plate by Stubbs," Staffordshire pottery. 5 7/16 x 6 13/16.

Published by the Society of Iconophiles, Series vii, no. 5, 1905. R. H. Lawrence, in his Catalogue (1908) of the Society's Publications, says: "Castle Williams . . . was designed in 1807 by Col. Jonathan Williams, and completed just before the War of 1812. . . . In the foreground appears a portion of the lower end of the city with its shores in their natural beauty."

45. *WHITE-HALL, VICTORIOUS MAY 20th, 1825.* Left: *Cummings, Fecit*; right: *Eng. by S. Maverick & J. F. Morin*; on a rock in foreground: *HOWARD.* 3 1/4 x 4 3/8. Line engraving.

In the distance is seen Castle William. In C. D. Colden's "Memoir . . . presented . . . at the celebration of the completion of the New York canals," N. Y., 1825, oppo. p. 236.

46. *CASTLE WILLIAM, NEW YORK HARBOR.* Centre, within border: *Gunn del*; right, within border: *WORCESTER CO. Vignette* 3 5/8 x 9 1/8. Wood engraving. 1851.

From an illustrated journal.

47. "Castle William." Etching by Henry Farrer. 7 3/4 x 11 3/4.

48. *VIEW FROM BATTLE HILL.* | (*Gowanus Heights, near New York*). [Looking across Gowanus and New York Bays, Governor's Island and the City in the distance.] Centre, above title: *Drawn & Engraved by James Smillie.* 4 3/4 x 7 1/16. Line engraving.

a. As described. EM. 9188 and 10922.

b. (*Gowanus Heights near New York*) replaced by (*Greenwood Cemetery*). Right, below: *Printed by Rice & Buttre, N. Y.*

49. *NEW YORK BAY.* Left: *J. P. Houston, R.S.A.*; right: *J. T. Smyth.* 4 1/8 x 6 1/2. [1840-?] Line engraving.

Trimmed close to engraved portion.

Prints, Hudson River, cont'd.

50. "N. Y. Bay, off Staten Island. By W. J. Bennett, 1839." in pencil on back. $14\frac{3}{8} \times 19\frac{1}{4}$. Aquatint. EM. 11839.

51. **NEW YORK BAY.** | (*From the Telegraph Station.*) Left: *W. H. Bartlett*; right: *R. Wallis*; centre, below: *London*. Published for the Proprietors by *Geo. Virtue, 26 Ivy Lane, 1838*. $4\frac{3}{4} \times 7\frac{1}{8}$. Line engraving.

a. As described.

In Bartlett's "American Scenery," vol. 1, New York, 1840, oppos. p. 59.

b. Without publication line. EM. 12114.

52. **NEW YORK BAY.** Left: *W. H. Bartlett*; right: *M. Osborne*. $4\frac{1}{2} \times 7\frac{1}{16}$. Line engraving.

Same design as preceding, with minor changes in figures at left beyond and added work on landscape.

53. **NEW YORK HARBOR.** | *As seen from the Heights of Staten Island. New York City appears in the centre; East River, Governors Island and City of Brooklyn on the right; Hudson River, Bedloes Island and Jersey City on the left. Numerous craft are floating on the water, among which in the near distance, is an Ocean Steamer and at anchor a Man of War.* Left: *Jas. Hamilton del.*; right: *Dougal sc.* $3\frac{1}{8} \times 7\frac{3}{8}$. Line engraving. [184-?]

54. *View of the Bay of New York from the Battery.* Centre, below: *Designed & Engraved expressly for the New Mirror by W. J. Bennett.* $4\frac{1}{2} \times 16\frac{1}{8} \times 7\frac{1}{16}$. Aquatint.

From the "New Mirror," vol. 2, New York, 1844, oppos. p. 273.

55. **BAY OF NEW YORK** | (*From the Narrows.*) Left: *Beckwith*; right: *Beckwith*; right below: *Printed by W. Pate*; centre below: **NEW YORK G. P. PUTNAM & CO.** Vignette. $4\frac{3}{8} \times 6\frac{3}{4}$. Line engraving.

From Irving's "Life of George Washington," vol. 3, New York, 1858, oppos. p. 84.

— Same. EM. 11907 (India paper) and EM. 11364.

56. *View from Trinity-Church Steeple.* $4\frac{3}{16} \times 9\frac{7}{16}$. Wood engraving.
From "Picturesque America," vol. 2, N. Y., 1874, p. 552.

57. "LIBERTY ENLIGHTENING THE WORLD"—BARTHOLODI'S COLOSSAL STATUE ON BEDLOES ISLAND, NEW YORK HARBOR.—DRAWN BY HARRY FENN. Left: SUPPLEMENT TO HARPER'S WEEKLY, OCTOBER 30, 1886; right: COPYRIGHT, 1886, BY HARPER & BROTHERS; above: [names of places shown.] $13\frac{3}{8} \times 40\frac{15}{16}$. Wood engraving after Harry Fenn.

58. **THE CENTENNIAL NAVAL PARADE IN THE UPPER BAY—THE U. S. S. "DESPATCH" AND HER CONVOY PASSING GOVERNOR'S ISLAND, AS SEEN FROM THE WASHINGTON BUILDING.**—DRAWN BY CHARLES GRAHAM. Wood engraving. Supplement to Harper's Weekly, May 11, 1889.

In the foreground is the Battery, with Castle Garden seen from above.

General Views of Manhattan Island: Fanciful views of 16th and 17th centuries.

59. **MANHATTAN ISLAND IN THE SIXTEENTH CENTURY.** Wood engraving.

In J. G. Wilson's "Memorial History of New York," vol. 1, N. Y., 1892, p. 33.

60. **MANHATTAN ISLAND BEFORE THE DUTCH.** Right, within border: *W. T. Wilson*. Centre, below: *Reproduced by permission from Todd's "The Story of the City of New York"; G. P. Putnam's Sons.* | **THE CITY HISTORY CLUB OF NEW YORK.** $3\frac{1}{2} \times 5\frac{1}{2}$. Process plate.

61. [Manhattan Island from the Long Island shore, showing the lower end of the island thickly wooded, a small sailing vessel in the river, and eight canoes; two Indians in the foreground on the Long Island shore.] $4\frac{5}{16} \times 7\frac{1}{16}$. Wood engraving after J. D. W[oodward].

A similar fanciful view of "The Island of Mana-hat-ta in the year 1600," by Anthony, appears in "The New Metropolis, 1600-1900 . . .," edited by E. I. Zeisloft, (N. Y., copyright 1899).

62. *September 13th, 1609.* [View of the lower end of Manhattan Island; a sailing vessel is anchored at the left, and four wigwams are seen on the east shore of the Island.] Border of two lines. $3\frac{15}{16} \times 6\frac{11}{12}$; to border, $4\frac{1}{8} \times 6\frac{7}{8}$. Lithograph, one tint.

In Hoffman's "A treatise upon the estate and rights of the Corporation of the City of New York . . ." N. Y., 1853, frontispiece.

63. **Purchase of Manhattan Island by Peter Minuit 1626.** Left, over upper border: *Copyright 1902 by Title Guarantee & Trust Co., N. Y.*; right, within lower border: *Alfred Fredericks*; right: *Gubelman Gravure Jersey City*; centre: *From the Painting by Alfred Fredericks for the Title Guarantee & Trust Company.* $5\frac{1}{8} \times 8$. Photogravure.

"New Amsterdam, 1643," from a drawing by E. L. Henry, appears in "The Story of the Fort," issued by the Title Guarantee and Trust Co., 1900.

General views of New York City: 17th Century.

These views are grouped according to the approximate dates at which they represent the city. Date of publication is often much later, as in the case of the Hartgers view (no. 64).

HARTGERS, ABOUT 1630.

64. *Fort nieuw Amsterdam op de Manhatans:* title at left above within border. $3\frac{3}{16} \times 4\frac{7}{8}$. About 1630. Line engraving.

In "Beschrijvinghe van Virginia, Nieuw Nederlandt, Nieuw Engelandt, en d'Eylanden Bermudes, Barbados, en S. Christoffel," published by Joost Hartgers, Amsterdam, 1651, p. 21. This is the earliest known engraved view of New York. A worn impression of the plate appears in the first edition of Adriaen van Donck's *Beschryvinge van Nieuw-Nederlandt*, Amsterdam, 1653, p. 9. J. H. Innes ("New Amsterdam and Its People," N. Y., 1902, note 2, p. 2), says: "A slight examination of this view by any person acquainted with the early topography of New Amsterdam will show that it is a reversed one, and as such must, in all probability, have been taken by means of a plain camera obscura,—no doubt from some point on the Long Island shore,—and never restored to its true position. The correct view appears by simply holding a mirror to the reversed one." Opposite p. 2 in the work just quoted from the Hartgers view appears reversed and enlarged.

The three following, nos. 65-67, are based on this view:

65. **NIUW NEDERLANDT:** centre, above; centre: *This view of Fort Amsterdam on the*

Prints, Hudson River, cont'd.

Manhattan is copied from an ancient Engraving executed in Holland. The Fort was erected in 1623 but finished upon the above model by Governor Van Twiller in 1635. 2 7/8 x 4 15/16. Line engraving. About 1850. Same design as preceding.

66. NIEUW NEDERLANDT: centre, above. Left: *Lith. by H. R. Robinson*; right: *for D. T. Valentine's Manuel*; centre: *This view of Fort Amsterdam on the Manhattan is copied from an ancient Engraving executed in Holland. The Fort was erected in 1623 but finished upon the above model by Governor Van Twiller in 1635. 2 13/16 x 6 3/8. Lithograph, one tint.*

Same design as no. 64, with minor changes.

67. A view of Fort Amsterdam in 1635, being | 26 Years after the discovery of Henry Hudson. 2 3/4 x 3. Line engraving. About 1850.

Same design as no. 64.

A copy of the Hartgers view, in line engraving by E. D. French, was published in "Views of early New York, prepared for the New York Chapter of the Colonial order of the Acorn," N. Y., 1904, oppo. p. 11.

BLOCK, ABOUT 1650.

68. NOVUM AMSTERODAMUM: title at centre above within upper border on banderole. 2 3/8 x 7 1/2; with frame, 3 3/8 x 9 1/16. Photograph from painting by Block, from the original in the possession of the New York Historical Society.

69. — Half-tone reproduction of preceding. 1 1/2 x 4 3/4.

70. "New Amsterdam about 1650." *Novum Amsterodamum* on banderole within upper border line. Below: ENGRAVED FOR THE SOCIETY OF ICONOPHILES OF NEW YORK, 1906. Underneath, engraving of upper part of carved wood frame surrounding the painting, with *Int Schip Lydia door Laurens Hermann Block A. 1650* on a banderole. Below: *Engraved by Sidney L. Smith. 2 13/16 x 7 1/4.*

Publication of the Society of Iconophiles, Series ix, no. 6. A copy of no. 68.

71. A VIEW OF NEW AMSTERDAM IN 1656. | THE CHURCH BUILT IN THE FORT, [NOW THE BATTERY,] IN 1642. Right: HOWLAND, SC. 3 1/2 x 6 3/8. Wood engraving. EM. 12681.

Partly based on the Block view (no. 68).

VISSCHER, ABOUT 1652.

72. NIEUWAMSTERDAM | op t Eylant Manhattans: centre above, within border. Below: *A — K, key to structure shown in print. 2 7/16 x 12 3/16. Line engraving. On map: NOVI BELGII | NOVÆQUE ANGLIÆ NECNON | PARTIS | VIRGINIÆ-TABULA | multis in locis emendata a Nicolao Joannis Visschero. Published about 1652.*

The church which, as J. H. Innes says ("New Amsterdam and Its People," N. Y., 1902, note 2, p. 2), was erected in 1633, appears in this print.

— Same. EM. 10518.

— Same, colored.

73. NIEUW AMSTERDAM | op t'Eylant Manhattans: centre above within border. Surrounded by ornamental border. 2 3/8 x 12. Line engraving.

At foot of map of "Novi Belgii | Novæque Angliæ nec non partis Virginiz tabula multis in locis emendata par Nicolaum Visscher." A reissue by N. Visscher, the son, of N. J. Visscher's map of Novum Belgium (names of Philadelphia and other towns added) in "The English Atlas," volume 3... By Will Nicolson... Oxford, 1683.

74. NIEUW AMSTERDAM | op t'Eylant Manhattans: centre above. Left, within border: *E. Nieuwenhff. 1 1/2 x 7 1/8. Line engraving.*

At foot of map of "Nova Belgica sive Nieuw-Nederlandt" in Adriaen vander Donck's "Beschryvinge van Nieuw-Nederlandt," 2nd edition, Amsterdam, 1656. According to J. H. Innes, copied from N. J. Visscher's map of 1655. See his "New Amsterdam and Its People," p. 49, note 2.

DANCKERS, 165-1

75. NEW AMSTERDAM (NOW NEW YORK). | As it appeared about the year 1640, while under the Dutch Government. Left: Copied from an ancient Etching of the same size, Published by Justus Danckers, at Amsterdam. 3 3/16 x 11 3/8. Line engraving. EM. 10453.

From "A history of New York . . . by Diedrich Knickerbocker," vol. 1, New York, 1809, frontispiece. Dancker's view was a copy of the Visscher view of New York. A worn impression of the same plate appears in vol. 2 of the 2d edition of the Knickerbocker history, N. Y., 1812, frontispiece.

J. H. Innes ("New Amsterdam and Its People," New York, 1902, p. 347) says: "The date given to the print is 'about the year 1640,' but as a matter of fact it represents a period about ten years later than that date. . . . Several of the topographical features of the town are brought out with much greater distinctness upon this Dancker's view than on the 'Vanderdonck View' [which is a copy of the Visscher view]." Mr. Innes concludes that although this view corresponds quite closely in general appearance with the Vanderdonck View, a minute examination shows many points of dissimilarity.

76. NIEUW-AMSTERDAM 1659: title at centre above. Centre: *Lith by G. Hayward 1 Platt St. for D. T. Valentine. EM. 10476.*

Same design as preceding, with minor changes.

MONTANUS, ABOUT 1670.

77. NOVUM AMSTERODAMUM on banderole above, within upper border. 4 15/16 x 6 3/8. Line engraving.

In "De Nieuwe en Onbekende Weereld of Beschryving van America . . . Door Arnoldus Montanus," Amsterdam, 1671. The same plate, — a worn impression, appears in John Ogilby's "America," London, 1670-1671, p. 171, and in "Die Unbekante Neue Welt . . . Durch Dr. O. D[apper]," Amsterdam, 1673.

— Same. EM. 1681 and 10414.

78. VIEW OF THE CITY OF NEW AMSTERDAM (NOW NEW YORK). Left: *Copied (in Fac Simile) from the Plate in Montanus Nieuwe en Onbekende Weereld (in State Library); right: Engraved and Printed by J. E. Gavitt; above, within upper border, NOVUM AMSTERODAMUM, on banderole.*

79. NEW YORK, 1671, FROM THE ORIGINAL IN THE POSSESSION OF THE PUBLISHER. Above, within upper border: *NOVUM AMSTERODAMUM, on a banderole. 4 13/16 x 6 3/8. Etching.*

A modern copy of the Montanus view [published by J. F. Sabin?]

A wood-engraving by Howland, "New Amsterdam (New

Prints, Hudson River, cont'd.

York) in 1656," illustrates the confusion arising from the placing of different dates on modern copies of the same original.

A copy of the Montanus view, line engraving by E. D. French, was published in "Views of early New York, prepared for the New York Chapter of the Colonial Order of the Acorn," N. Y., 1904, oppo. p. 27.

HUGO ALLARD, 1673.

80. *Nieuw-Amsterdam onlangs Nieuw jorck gen dint, | ende hernomen by de Nederlanders op den 24 Aug: 1673. | eindelijk aan de Engelse weder afgestaan:* title at centre, above, within ornamental border; latter surmounted by ornamental device at left of which, on shield: *Typis CAROLI ALLARD Amstelodami cum Privile.* Upper corners cut $1\frac{1}{8} \times 10$. Photograph of line engraving. Reproduction of the entire map. $7\frac{3}{8} \times 11\frac{1}{16}$.

81. *Nieuw-Amsterdam onlangs Nieuw jorck genaemt, | ende hernomen bij de Nederlanders op den 24 Aug: 1673. | eindelijk aan de Engelse weder afgestaan:* centre above, within border. Below: *A — T*, key to structures shown. $2\frac{7}{8} \times 15\frac{1}{2}$ in. [About 1673.] Line engraving. On map: *TOTIUS NEOBELGII NOVA ET ACCURATISSIMA TABULA. Apud | Reinier & Josua | OTTENS | Amstelodami.* [About 1740.]

A copy of the view on Hugo Allard's second map, 1673, usually called the fourth view of New Netherlands.

82. *NEW-YORK, | in 1673.* Left: (*Jos. W. Moulton, del.*); right: (*Robt. M. Caw, sc.*) Below, a printed description, headed: *Conquered and named New Orange.* [Explained 1843.] $2\frac{3}{4} \times 14\frac{1}{4}$. Line engraving.

A copy of the preceding.

83. *NEW YORK IN 1673.* Centre above, within border: *NEU JORCK SIVE NEU AMSTERDAM.* Principal buildings and points of interest lettered and described in Latin below. Border of one line. $1\frac{3}{8} \times 7\frac{7}{8}$; to border, $1\frac{3}{4} \times 7\frac{1}{4}$. Line engraving by E. D. French.

In "Views of New York, prepared for the New York Chapter of the Colonial Order of the Acorn," N. Y., 1904, oppo. p. 51. A copy of the view at the foot of Matthew Seutter's map of the Dutch possessions in America. The view on Seutter's map was a copy of that on Hugo Allard's second map, which is believed to be the fourth of the first five engraved views of New York.

84. *NIEU AMSTERDAM | AL NEW YORK:* centre above in ornamental work within upper border. Left, within lower border: *Carolus Allard ex. cum Priv. ord. Holl. et Westfr.;* in upper right corner: 78. Enclosed in ornamental border. $8\frac{3}{8} \times 10\frac{1}{16}$. Line engraving, colored.

No. 78 in "Orbis habitabilis oppida et vestitus, | centenario numero complexa, summo studio collecta, | atque in lucem edita à Carolo Allard. Tot Amsterdam." [About 1690.]

ALLARD—SCHENCK, 167—?

85. *NIEU AMSTERDAM, een Stedeken in Noord Amerikaes | Nieu Holland, op het eilant Manhattan: naemals Nieu Jork genaemt, | to en het geraekte in 't gebied der Engelschen.* [And same in Latin.] Left: *Pet: Schenk;* right: *Amsteld. C. P.* Enclosed in frame, ex-

cept below greater part of lower border. $7\frac{7}{16} \times 9\frac{13}{16}$; with frame, $7\frac{15}{16} \times 10\frac{1}{4}$. Line engraving. [About 1700.]

In "Petri Schenkii Hecatompolis . . ." (1702). Same design, with minor changes, as preceding.

86. Same, with 92 added in lower right corner. In Jan Roman's "Afbecdinge," Amsterdam, 1752.

87. *NIEU AMSTERDAM een stedeken in Noord Amerikaes Nieu Holland, op het | eilant Manhattan: namaels Nieu jork genaemt, to en het geraekte in 't gebied der | Engelschen 1667.* [Same in English.] Left: Copied for D. T. Valentine's *Manual for 1851*; right: by G. Hayward 120 Water St. $6\frac{1}{2} \times 9\frac{7}{8}$. Lithograph, one tint.

Copied, with minor changes, from the view in Peter Schenk's "Hecatompolis" or Jan Roman's "Afbecdinge." Any apparent contradiction indicated by the date 1667 may be disregarded.

— Same. EM. 10489.

88. *The City of New Orange, 1673, as then sketched:* centre, above. $3\frac{3}{16} \times 6\frac{1}{8}$. Lithograph.

A free copy of No. 84, with ship in foreground at right removed and changes in houses, waterfront, etc.

89. *NIEU AMSTERDAM al NEW YORK:* on banderole at centre above within border. In upper right corner: 79; left, within border: *Carolus Allard excudit cum Privilegio ordinum Hollandiæ et Westfrisiæ;* right, within border: *A major. fet.* Enclosed in border. $7\frac{15}{16} \times 10\frac{1}{16}$; with border, $8\frac{3}{8} \times 10\frac{1}{16}$. Line engraving, colored.

No. 79 in "Orbis habitabilis oppida et vestitus, | in lucem edita à Carolo Allard." Amsterdam. [About 1690.]

— Same, not colored. EM. 10362.

DANKERS & SLUYTER, 1679-86.

90. *VIEW OF THE ENTRANCE OF NEW YORK HARBOR FROM NAJAK.* | (*Fort Hamilton.*) Right: *Facsim.* by G. Hayward & Co.,; right, over upper border: *Pl. II.* Places of interest are lettered and described in Dutch in inscription above. $7\frac{1}{2} \times 12\frac{1}{16}$. Lithograph facsimile of drawing in ink.

This and the nine following items [Nos. 91-99] are illustrations for the "Journal of a Voyage to New York and a Tour in Several of the American Colonies in 1679-80," by Jasper Dankers and Peter Sluyter, published in the "Memoirs of the Long Island Historical Society," vol. 1, Brooklyn, 1867.

91. *NEW-YORK FROM BROOKLYN HEIGHTS IN 1679.* Right: *Facsimile* by G. Hayward & Co., 171 Pearl St., N. Y.; above right corner: *Pl. III.* $7\frac{7}{8} \times 29\frac{7}{8}$. Lithograph facsimile of drawing in ink.

See note to No. 90.

92. *VIEW OF NEW-YORK FROM THE NORTH, 1679.* Right, within border: *Facsimile* by G. Hayward & Co., 171 Pearl St., N. Y.; right above, inscription in Dutch; right upper corner, within border: *Pl. IV.* $8\frac{3}{4} \times 16\frac{1}{8}$. Lithograph facsimile of drawing in ink.

See note to No. 90.

93. *VIEW OF NEW YORK FROM THE NORTH.* Inscription at centre above in

Prints, Hudson River, cont'd.

Dutch. Over right upper corner: 5. 7 5/16 x 12 3/4. Lithograph facsimile of drawing in ink.

See note to No. 90.

94. *VIEW OF NEW YORK FROM THE NORTH, 1679.* Over upper right corner: 7 7/8 x 12 3/8. Lithograph in color.

See note to No. 90.

— Same, without 7. EM. 6840.

95. *THE STADTHUYS OF NEW YORK IN 1679.* | *Corner of Pearl St. and Coentjys Slip.* Right: *G. Hayward & Co., 171 Pearl St., N. Y.;* over right upper corner: *Pl. VIII.* 7 1/4 x 8 13/16. Lithograph, two tints.

a. Proof before letters. Figures of two men to the right of the two at the barrels. Printed without tints. Width 9 1/2 inches.

b. Width now 9 inches. With full inscription, excepting *Pl. VIII.* Large paper. The two men erased.

c. As described.

See note to No. 90.

96. *NORTH VIEW OF THE DOCK, NEW YORK: 1679.* Over right upper corner: *Pl. IX.* 4 1/4 x 7 3/8. Lithograph in color.

See note to No. 90.

— Same, without *Pl. IX.* Separate. large paper.

— Same, EM. 10701.

97. *THE WATER GATE, FOOT OF WALL ST. NEW YORK, 1679.* Right: *G. Hayward & Co., 171 Pearl St., N. Y.;* over right upper corner: *Pl. X.* 4 1/4 x 7 1/2. Lithograph in color.

See note to No. 90.

— Same, without *Pl. X.* Separate. large paper.

98. *VIEW OF THE EAST RIVER SHORE, NORTH OF THE WATER GATE, N. Y., 1679.* Left: *Lith. of Hayward & Co., 171 Pearl St., N. Y.;* over right upper corner: *Pl. XI.* 4 7/16 x 7 5/16. Lithograph in color.

See note to No. 90.

— Same. Separate. large paper copy.

99. *VIEW OF THE HOUSE OF SIMON AERTSEN DE HART* | *still standing on Gowanes Bay in 1867.* Left: *Lith. of Hayward & Co., 171 Pearl St., N. Y.;* over right upper corner: *Pl. XII.* 6 7/16 x 8 5/8. Lithograph in color.

See note to No. 90.

100. *SOUTH PROSPECT of the CITY OF NEW YORK* | *BY WILLIAM BURGIS, 1717.* Centre, within lower border, ornamental device enclosing dedication to Gov. Robert Hunter; below lower border twenty-four printed titles, numbered, and indicating points of interest in city, harbor, and Long Island. 11 x 37 1/4. Lithograph, one tint.

The original is in the possession of the New York Historical Society. W. L. Andrews [*"New Amsterdam, New Orange, New York," 1897, p. 62*] says: "This is believed to be the first view of New York engraved in America and it is undoubtedly an entirely original production. The importance of this en-

graving in the pictorial annals of our city cannot well be overestimated. It is beyond question, an accurate representation of the place it claims to depict and in the key at the foot of the print . . . is embraced the name of every building of note of which the city at that time could boast."

101. *VIEW IN NEW YORK, 1746.* | (*Lower Market.*) Left: *Lith. by Geo. Hayward, 120 Water St., N. Y.;* right: *for D. T. Valentine's Manual for 1858.* Border of one line. 3 1/2 x 6; to border, 3 11/16 x 6 1/8. Lithograph.

This view, like that of "The Ferry House, 1746 (Fulton Street, Brooklyn)," which appears in the same volume of Valentine's Manual, is taken from the Burgis view.

— Same. EM. 10449.

102. *BROOKLYN, SITE OF FULTON FERRY, AND NEW YORK OPPOSITE.* | 1717. 14 1/2 x 13 3/8. Water color.

Copy of a portion of the Burgis view of 1717.

103. "New York Harbor & Yacht Fancy, 1717." *S. Hollyer. Copyright 1905.* 3 3/4 x 5 3/4. Engraving.

Hollyer's "Views of old New York," 4th series. Copy of a portion of the Burgis view [No. 100].

104. *The South Prospect of the City of New York in America:* on banderole above, within upper border. Border of two lines. 6 1/16 x 20 5/16; to border 6 1/4 x 20 1/2. Line engraving.

In "London Magazine," Aug., 1761, oppos. p. 400.

Evidently founded on the Burgis print of 1717, showing the same general view and with the ferry house in foreground; but changes in the water front as well as in the arrangement of the streets point to a later date.

105. A copy of the preceding, with *North America* instead of *America.* EM. 2593 & 6970.

This is essentially a close copy of the preceding; the differences are matters of technique mainly. For instance, there are none of the vertical lines which in the "London Magazine" print occur under most of the vessels. Shading almost obliterates the "21" near the lower right corner. And there is only one loop at the end of "America" instead of two.

106. *A SOUTH PROSPECT OF YE FLOURISHING CITY OF NEW-YORK IN THE PROVINCE OF NEW YORK, NORTH AMERICA.* Left: *Copied for D. T. Valentine's Manual;* right: *Lithd. by G. Hayward 73 Nassau St. New York 1849;* centre: *Reduced from the original Copy, which is 6 Feet 6 in. in length and 28 in. wide . . . Presented to the New York Society Library 1848 by Mrs. Maria Peebles of Lansingburgh, N. Y.* At centre inscribed within lower border on ornamental work a dedication to Governor George Clinton, by Thos. Bakewell, of the original picture, published in 1746. Below title an historical sketch of the city and province, followed by an enumeration and description of the principal buildings, etc. 6 1/8 x 18 3/4. Lithograph, one tint.

Reduced, with slight changes, from the William Burgis view of 1717. [No. 100].

— Same. EM. 6850.

107. *NEW YORK:* centre, above on banderole. In upper right corner, enclosed on ornamental work, a key to the principal buildings and points of interest. Right, within border: *W. H. Tom's. Sculp.* 4 13/16 x 10 1/2. Line engraving.

On sheet 4 of the "Map of the British empire in America."

Prints, Hudson River, cont'd.

by Henry Popple, London, 1733. Based on the Burgis view of 1717.

A copy of the Popple view, line engraving by E. D. French, was published in "Views of early New York, prepared for the New York Chapter of the Colonial Order of the Acorn," N. Y., 1904, oppos. p. 89.

108. **NEW YORK:** centre, above. 1 1/16 x 2 3/16. Line engraving.

A small view, based on the preceding, and published in the same volume. It is in the upper right corner of the general map preceding the twenty sheets of the Popple "Map."

109. **NEW YORK;** on banderole, upper centre, within border. 4 11/16 x 10 5/16. Line engraving. EM. 13183.

A 19th century copy of no. 107.

110. **NEW YORK.** Left, over upper border in manuscript: "King's Maps CXXI. 38. B;" centre and right, below lower border: "Copied from the Original MS. in the British Museum, for Mr. George H. Moore, Librarian of the New York Historical Society, and compared by Mr. Richard Sims." 4 11/16 x 10 1/4 Wash drawing.

This view, while closely resembling, is slightly smaller than that on sheet 4 of the Popple map, and it also lacks the name of the engraver, W. H. Toms. There are also minor changes in the ships in the harbor, and in the waterfront.

111. A lithographic copy of the preceding, without the written inscription over the upper left corner, and with the certification "Copied . . . by me, Richard Sims." in the centre instead of at the right. Left: *Drawn & Lith. by G. Hayward, 171 Pearl St., N. Y.;* right: *for D. T. Valentine's Manual for 1863.* 4 11/16 x 10 3/16. Lithograph.

— Same with one tint, filling in a sky, etc.

112. *South West View of Fort George with the City of New York.* Border of one line. 5 3/8 x 8 3/8; to border line, 5 3/4 x 8 1/2. Line engraving.

View from the water.

From William Russell's "History of America," vol. 2, London, 1778, oppos. p. 270.

A copy on a smaller scale, of "A South West View of the City of New York," engraved by J. Carwitham. A reproduction of the Carwitham print appears opposite p. 70 in "New Amsterdam, New Orange, New York," [N. Y. 1897], by W. L. Andrews.

In "Views of early New York . . . prepared for the New York Chapter of the Colonial Order of the Acorn," N. Y., 1904, p. 114-117, the date of the view is fixed, by identification of building, as between 1737 and 1741. Carwitham, according to Bryan's "Dictionary of painters and engravers," flourished about 1730.

— Same. EM. 24 & 10800.

A copy of this Russell view, line engraving by E. D. French, with the title: *CITY OF NEW YORK BEFORE THE REVOLUTIONARY WAR*, was published in "Views of Early New York, prepared for the New York Chapter of the Colonial Order of the Acorn," 1904, oppos. p. 111.

113. **A VIEW OF FORT GEORGE WITH THE CITY OF NEW-YORK FROM THE S. W. 1740.** Left: *Lith. by Geo. Hayward, 120 Water St., N. Y.;* right: *for D. T. Valentine's Manual, for 1858.* 6 3/16 x 15 3/8. Lithograph, one tint.

Same design as No. 112.

— Same. EM. 6865, 8679, & 10785.

114. **NEW YORK IN 1775.** | (*Fort George from the Harbor.*) Centre, below: **NEW**

YORK. G. P. PUTNAM. Vignette. 4 3/4 x 6 1/2. Line Engraving.
Based on No. 112.

— Same. EM. 2581.

115. **A VIEW OF FORT GEORGE, WITH THE CITY OF NEW YORK FROM THE SOUTHWEST, 1740.** 6 x 13 3/4. Lithograph, one tint.

The fort in the Russell view, [No. 112] with slight changes in the smaller buildings.

116. *A South East Prospect of the City of New York in 1756-7 with the French | Prizes at Anchor. Engraved for the Society of Iconophiles, [sic!] from a Paint- | ing in the Possession of the New York Historical Society, | New York, 1905 by F. S. King.* 3 5/8 x 6 15/16. Line engraving.

Publication of the Society of Iconophiles, Series IX, no. 1. "The water front in this picture," says R. H. Lawrence, ["Catalogue of the engravings, issued by the Society of Iconophiles," 1908, p. 62] "corresponds closely to the 'Duyckinck' map surveyed by Maerschalk and dated 1755."

116 1/2. *A South West View of the City of New York | Taken from the Governours Island at *; on banderole in centre above, within border.* 7 1/4 x 34 1/4. Line engraving.

At bottom of "Plan of the City of New York, in North America: Surveyed in the years 1766 and 1767," by B. Ratzer. *Thos. Hotchin Sculpt.* London, Published . . . Jany. 12, 1776, by Jefferys & Faden . . .

117. Same. Reproduced in lithography by G. Hayward, 120 Water Street, New York. 21 x 16 7/8. EM. 8096.
From "Valentine's Manual," 1854.

117 1/2. *A South East View of the City of New York in North America* [Title also in French]. Right: *b. 4;* centre below: *Drawn on the Spot by Capt Thomas Howdell, of the Royal Artillery. Engraved by P. Canot. | London Printed for John Bowles at No 13 in Cornhill, Robert Sayer at No 53 in Fleet Street, Thos. Jeffreys the corner of St. Martins Lane in the Strand, Carrington Bowles at No 69 in St. Pauls Church Yard and Henry Parker at No 82 in Cornhill.* Followed by numbered descriptions of principal buildings and places of interest. 12 5/8 x 19 13/16. [1768.] Line engraving.

118. **SOUTH EAST VIEW OF THE CITY OF NEW YORK** | 1. *New Colledge.* 2. *Old English Church.* 3. *City Hall.* 4. *French Church.* 5. *North River.* 6. *Staten Island.* 7. *The Prison.* | 1768. Left: *Thos. Howdell, Delt.;* right: *Engraved & Printed by Gavitt & Duthie;* centre: *Copied from the original Engraving by P. Canot 1768.* 4 1/8 x 6 11/16. Line engraving.

— Same, with J. R. Gavitt instead of Gavitt & Duthie. EM. 2636.

From "Memoir upon the late war in North America . . . 1755-60 . . . by M. Pouchot; translated and edited by F. B. Hough," vol. II, Roxbury, Mass., 1866, oppos. p. 88.

119. **NEW YORK IN 1768.** | *South East View.* The principal buildings, etc., indicated by inscriptions under lower border. Arched top. 4 x 6 1/4. Line engraving, about 1860.

Same design as No. 117, with difference in foliage at left and right in foreground and other minor changes.

Prints, Hudson River, cont'd.

120. *SOUTH EAST VIEW OF THE CITY OF NEW YORK 1768.* Left: *THE MAJOR & KNAPP ENG. MFG. & LITH. CO. 71 BROADWAY, N. Y.*; right: *FOR VALENTINE'S MANUAL, 1868.* With border of one line. $3\frac{3}{8} \times 5\frac{7}{8}$; to border line, $3\frac{3}{8} \times 6\frac{1}{4}$. Lithograph in color.

Same design as No. 117.

121. *A South West View of the City of New York in North America.* [title also in French.] Centre below: *Drawn on the SPOT by Capt. Thomas Howdell, of the Royal Artillery. Engraved by P. Canot. | London. Printed for John Bowles at No 13 in Cornhill, Robert Sayer at No 53 in Fleet Street, Thos. Jeffreys the corner of St. Martins Lane in the Strand, Carrington Bowles at No 69 in St. Pauls Church Yard, and Henry Parker at No 82 in Cornhill.* Followed by numbered descriptions of principal buildings and places of interest; under lower right corner: *b. 3. 12 $\frac{3}{8}$ x 19 $\frac{1}{16}$. 1768.* Line engraving.

— Same. EM. 6853 & 10912.

122. *A South West View of the City of NEW York in North AMERICA.* Right, over upper border: 8; centre, below: *Printed for Carington Bowles, at his Map & Print Warehouse, No 69 in St Pauls Church Yard, London. 6 x 10 $\frac{1}{4}$.* Line engraving. [About 1768.] EM. 10912.

Reduced from the engraving by P. Canot (no. 121), with three men and dog added in foreground at centre.

123. *A View of New York, Governor's Island, the River &c. from Long Island.* Right, above upper border: *No XXX*; centre, below: *Published as the Act directs by A. Hamilton Junr near St. Johns Gate Nov 1 1776. 3 15/16 x 6 $\frac{1}{8}$.* Line engraving.

Same design as No. 121, but with valley in foreground at centre, and heights at right, filed with troops.

— Same. EM. 2622 & 11919.

124. *A View of New York, Governors Island the River &c. from Long Island.* Left: *Lith. G. Hayward, 120 Water St N. Y.*; right: *for D. T. Valentine's Manual 1852. 3 $\frac{3}{8}$ x 6 $\frac{1}{4}$.* Lithograph.

Same design as preceding, with minor changes.

— Same. EM. 6931.

125. *SOUTH WEST VIEW OF THE CITY OF NEW YORK.* Left: *Thos. Howdell Delt*; right: *J. Kirk sc.*; centre: *Copied from the Original Engraving by P. Canot 1768*; centre below: *1768.* The principal points of interest are numbered and described in inscriptions below title. $4\frac{1}{4} \times 6\frac{7}{16}$. Line engraving. About 1860.

Same design as No. 121.

A copy of the Howdell-Canot view (no. 121). From "Memoir upon the late war in North America" 1755-60, by M. Pouchot; translated and edited by F. B. Hough, vol. 2, Roxbury, 1866, oppos. p. 85.

— Same. EM. 2711.

126. *NEW YORK IN 1768 | From the rear of Col. Rutgers' House, East River | (From an*

English print). Centre: *J. Kirk*; centre below: *NEW YORK G. P. PUTNAM & CO. Vign. 4 $\frac{7}{8}$ x 6 $\frac{1}{8}$.* Line engraving. EM. 6933. Same design as No. 121. From Washington Irving's "Life of George Washington," vol. 2, N. Y., 1857, oppos. p. 207.

127. *NEW YORK IN 1776.* Centre, below: *From the rear of Col. Rutgers House, East River.* With arched top. $4\frac{1}{8} \times 6\frac{1}{4}$. Line engraving. [About 1860.]

Same design as no. 121 (1768); cow, etc., added near lower left corner.

— Same. EM. 8694.

128. *NEW YORK IN 1776 | FROM A CONTEMPORARY PRINT.* Right: *Alberttype, E. Bierstadt, N. Y. 6 $\frac{3}{8}$ x 12 $\frac{3}{8}$.* Photograph of aquatint. EM. 2585.

A copy of "a View of New York in 1775," an aquatint in *The Atlantic Neptune*, published in 1781 for the use of the Royal Navy.

129. *NEW YORK—1776. 5 $\frac{3}{4}$ x 13 $\frac{3}{8}$.* Wash drawing. EM. 10724.

A copy of the "Atlantic Neptune" view. See no. 128.

130. *A VIEW OF NEW YORK IN 1775 | From an Aquatint in The Atlantic Neptune | Published in 1781 for the use of the Royal Navy. | Engraved for the Society of Iconophiles | By Sidney [d reversed] L. Smith, 1906. 3 13/16 x 7 5/16.* Line engraving.

Publication of the Society of Iconophiles, Series ix, no. 9.

131. *NEW YORK IN 1776 (FROM THE NORTH RIVER).* $3\frac{3}{4} \times 9$. Wood engraving. EM. 12298.

A copy of the "Neptune" view. See no. 128.

132. *NEW YORK, with the ENTRANCE of the NORTH and EAST RIVERS.* At right, outside of upper right corner, in pencil: 3. Aquatint, colored. $4\frac{1}{4} \times 18\frac{3}{8}$. EM. 10577. From the "Atlantic Neptune," vol. iv, 1781, p. 25.

— Same, not colored. EM. 11904.

133. *VUE DE LA NOUVELLE YORCK:* Reversed, centre, above. Over upper left hand corner: *Collection des Prospects.* Below, to left: *New Yorck | Eine Stadt in Nord-America auf einer Insul Manahattan genannt an | der Mündung des Hudsons Flusses Welche 1615. von den Holländern | zu erst zu bauen angefangen und neu Amsterdam genenet, hernach | aber 1666. von den Engelländern ihnen abgenommen und neu Yorck | um getauft worden.* [Same to right in French.] Right: *Gravé par Balth. Frederic Leizelt.* Centre, below: *Se vend à Augsbourg au Negoce commun de l'Academie Imperiale d'Empire des Arts libereaux avec Privelege de Sa Majesté Imperiale et avec Defense ni d'en faire ni de vendre les Copies. 9 15/16 x 15 $\frac{3}{8}$ in.* Line engraving, colored. EM. 10723. A fanciful view.

134. *Die Anlündung der Englischen Trouppen | Zu Neu Yorck.* [Same in French.] Above: *DEBARQUEMENT DES TROUPES ENGLOISES A NOUVELLE YORCK,* reversed; above, left: *Collection des Prospects.* Right, below: *Gravé par Francois Xav. Habermann.*; centre, below: *Se vend à Augsbourg au Negoce*

Prints, Hudson River, cont'd.

comun de l'Academie Imperiale d'Empire des Arts liberaux avec Privilege de Sa Majesté Imperiale et avec Defense ni d'en faire ni de vendre les copies. $9\frac{5}{8} \times 15\frac{1}{2}$. Line engraving, colored. EM. 11070.

A fictitious view.

135. *VIEW OF NEW YORK, 1787.* Left: Lith. C. Hayward 120 Water St. N. Y.; right: for D. T. Valentine's Manual for 1851. $7 \frac{11}{16} \times 11\frac{1}{8}$. Lithograph, one tint. EM. 11916.

Front part of warship, three decker, at left, with sails furled.

— Same. EM. 11916.

136. *NEW YORK, ABOUT 1790.* | Left: Lith. by Geo. Hayward, 171 Pearl St. New York; right: for D. T. Valentine's Manual, 1862; centre, below: Presented to D. T. Valentine, by Edw. Crommelin, 195 Prince St. New York. Border of one line. $14\frac{3}{8} \times 20\frac{3}{8}$; to border line, $14 \frac{13}{16} \times 20 \frac{13}{16}$. Lithograph in tints.

Rest of inscription apparently cut away. A three-decker at left with sails blown out; other ships at right. Otherwise the same view as No. 135.

A reproduction of the original eighteenth century colored engraving on which this is based appears opposite p. 71 in W. L. Andrew's "New Amsterdam, New Orange, New York," N. Y., 1897.

— Same. EM. 11917.

137. "VIEW OF THE CITY OF NEW-YORK IN 1792. | DRAWN BY AN OFFICER OF THE FRENCH FLEET DRIVEN INTO NEW YORK HARBOR BY A | BRITISH FLEET"; title in manuscript. $12\frac{3}{8} \times 18 \frac{5}{16}$. Etching, colored.

It is said that an impression in a private collection is lettered by hand; "view of the City and Harbour of New York taken from Mount Pitt." Still another impression has the same lettering, with "The Seat of John R. Livingston, Esq." added.

138. *VIEW OF THE CITY OF NEW YORK IN 1792.* | Drawn by an Officer of the French Fleet driven into New York Harbor by a British Fleet. Left: Copied for D. T. Valentine's Manual 1850; right: G. Hayward's Lith. 206 Pearl St. N. Y. Right and left of centre: key to buildings shown. $11 \frac{1}{16} \times 18\frac{1}{8}$. Lithograph, one tint.

A copy of the preceding.

— Same. EM. 11925.

Drayton's view, 1793. See No. 238.

139. *New York from Hobuck, N. Jersey Shore, Archibald Robertson.* Left: New York from Hobuck | June '96 (In possession of | Thomas A. Emmet, M.D. [By Eliza Greatorex.] $4\frac{3}{4} \times 7 \frac{13}{16}$. Reproduction of pen drawing. EM. 12516.

From Greatorex's "Old New York . . ." N. Y., 1875. [v. 1], oppos. p. 24.

140. *A VIEW of the CITY from LONG ISLAND.* $2 \frac{5}{16} \times 6\frac{3}{8}$. Line engraving. EM. 11892.

On "a new and accurate plan of the City of New York in North America, published in 1797," B. Taylor del., J. Roberts sculpt.

141. *A View of the City of NEW-YORK from Brooklyn Heights, foot of Pierrepont St. in 1798, by Monsieur C. B. Julien de St. Memin,*

with a Pantograph invented by himself. Right: Prepared by M. Dripps for Valentine's Manual 1861, from an Original Drawing now in possession of J. C. Brewoort Esqr of Brooklyn. $4\frac{1}{2} \times 57\frac{1}{2}$. Lithograph.

142. *NEW YORK | From HOBUCK FERRY HOUSE New Jersey.* Left: Alexander Robertson Delineavit; right: Francis Jukes Sculptit; centre, below: London Pubd. Mar 31st. 1800, by F. Jukes No. 10 Howland Street and by Al. Robertson, Columbian Academy Liberty Street New York. $13\frac{3}{8} \times 18\frac{1}{8}$. Aquatint, colored.

— Same. EM. 11169.

19th and 20th Centuries.

143. *NEW YORK IN 1801.* Border of one line. $3 \frac{5}{16} \times 5\frac{3}{4}$; to border line, $3\frac{3}{8} \times 5 \frac{13}{16}$. Line engraving by E. D. French.

View from Long Island.

In "Views of early New York," prepared for the New York Chapter of the Colonial Order of the Acorn, "N. Y., 1904, oppos. p. 133. On p. 138 it is stated that the original of which this is a copy is an aquatint engraving by William Rollinson, of a drawing by John Wood, published in New York in 1801.

144. *The City of | NEW YORK IN THE STATE OF NEW YORK NORTH AMERICA.* Left: Painted by William Birch; right: Engraved by Samuel Seymour; centre, below: Published Jany 1, 1803, by W. Birch, Springfield, near Bristol, Pennsylvania. $18\frac{5}{8} \times 23\frac{7}{8}$. Line engraving. EM. 11924.

A view from Long Island. State of the plate with the picnicking party at the right.

145. *A South West Prospect of the City of New York (1806) Engraved | by Sidney L. Smith from a Contemporary Print for the | Society of Iconophiles, New York, 1906.* $4 \frac{11}{16} \times 6\frac{3}{8}$. Line engraving.

Publication of the Society of Iconophiles, Series ix, no. 5.

146. *A SCHOONER WITH A VIEW OF NEW YORK. GVELETTE, ET VUE DE NEW YORK.* Left: Domk. Serres R.A. del.; right: J. Clark & J. Hamble sculp.; centre, above title: Edw. Orme Excudit; centre below: Published & Sold Jany. 1, 1807, by Edw. Orme, 59 Bond Street, London. Border of two lines. $9\frac{5}{8} \times 16 \frac{1}{16}$; to outer border, $10 \frac{5}{16} \times 16\frac{1}{4}$. Aquatint. EM. 11905.

147. *NEW-YORK. | Taken from Fort Columbus, Governors Island | 1816.* Left: Lith. by Geo. Hayward, 171 Pearl St. New York; right: For D. T. Valentine's Manual for 1860. $7 \frac{7}{16} \times 16\frac{3}{4}$. Lithograph.

148. *NEW YORKS HAMN OCH REDD | Från Brooklyn på Longisland.* Left: Rit. of Klinckowström.; right: Gr. af Akrell. [Stockholm, about 1820.] $8\frac{3}{4} \times 18\frac{3}{4}$. Aquatint. EM. 11926.

The preceding plate is very likely taken from "Resa i förenta Staterna," Stockholm, 3 parts with Atlas, by Axel Leonhard Klinckowström [1775-1837], a naval officer. See "Biographiskt Lexicon öfver namnkunnige Svenska Män," vol. 7 [Upsala, 1841] pp. 76, 77.

149. *View of New York, from the West.* Right: Neale & Son 352 Strand; centre, below title: Published by Sir R. Phillips & Co. Bride

Prints, Hudson River, cont'd.

Court Bridge Street; over upper right corner: Vols. No. XXX. 3/8 x 6 3/8. Line engraving. EM. 11918.

From "New Voyages and travels," vol. 5: E. Montule's "Voyage to North America," London, 1821, oppo. p. 3.

150. A view of New York from Fulton Street, Brooklyn. [About 1820.] Aquatint by C. F. W. Mielatz, 1904. 5 7/16 x 6 7/8.

Published by the Society of Iconophiles, Series VII, No. 1, 1904. R. H. Lawrence in his catalogue [1908] of the Society's publications, says: "This view is found on a 10-inch plate [Staffordshire pottery] by Stevenson, with the following inscription printed on the back: 'New York from Brooklyn Heights, by W. G. Wall, Esq.' . . . The first steam ferry-boat to Brooklyn, the 'Nassau,' appears in the centre of the East River."

151. NEW YORK, FROM GOVERNOR'S ISLAND | No. 20 of the Hudson River Port Folio. Left: Painted by W. G. Wall; right: Engraved by J. Hill; centre, below: Published by Henry I. Megarey New York. Border of two lines. 14 x 20 15/16; to border line, 14 7/16 x 21 3/8. [1828?] Aquatint.

a. As described.

b. With and transferred to added after New York. EM. 11912.

152. NEW YORK FROM HEIGHTS NEAR BROOKLYN. Right: Engraved by J. Hill; centre, below: To Thomas Dixon Esqr. this Plate is respectfully Inscribed by his Obliged Servt Willm. G. Wall. | New York, Bourne, "Depository of Arts" 350 Broadway 1828 and transferred to G & G & H. Carvill New York. 15 1/2 x 24 1/4. Aquatint, colored.

153. NEW YORK FROM WEEHAWK. Right: Engraved by J. Hill; centre, below: To Thomas Dixon Esqr. this Plate is respectfully Inscribed by his Obliged Servt Willm. G. Wall. | New York, Bourne, "Depository of Arts" 350 Broadway, 1828, and transferred to G & O & H. Carvill, New York. 15 1/2 x 24 1/4. Aquatint, colored.

154. Vue de New-York prise de Weehawk. [Same in English, Latin & German] No 1. | Imp. Lith. de Bove dirigée par Noël aîné & Co.; left: Lithographié par Deroy; right: Dessiné d'après nature par J. Milbert. Above: Ire Livraison. AMÉRIQUE SEPTENTRIONALE—ÉTAT DE NEW-YORK. Pl 1. Border of two lines. 7 3/8 x 11 3/8; to border line 8 1/8 x 11 5/8. Lithograph, India paper.

In "Itinéraire pittoresque du fleuve Hudson..." par J. Milbert, 1828-29.

155. View of the City of New York. Left, within border: Martens del.; right: Anderson Sc. 5 3/4 x 8 7/8. [183-?] Wood engraving; text on back.

A view from the West.

156. NEW YORK. Left: J. H. Dakin; right: Engraved by Barnard & Dick; over upper right corner: Pl. 1. Border of one line at right and top, two at left and bottom. 3 5/16 x 5 13/16; to border line, 3 7/16 x 5 15/16. [1831.] Line engraving.

View from Governor's Island.

a. On same sheet with, and separated by a horizontal line from, pl. 2.

In "Views in New York . . . Taken on the spot . . . by Dakin," N. Y., 1831.

b. Separate.

157. 1. Vue éloignée de New-York. 3 5/8 x 4 5/8. Etching.

Same design as preceding, with slight changes.

158. NEW YORK. Left: Drawn by J. Dupree; right: Engraved & Printed by Fenner Sears & Co.; centre, below: London. Published June 15 1831 by I. T. Hinton & Simpkin & Marshall; over right corner of upper border: 56. Border of one line at left and top, two at right and bottom. 4 x 5 9/16; to border, 4 1/4 x 5 3/4. Line engraving.

a. As described.

From J. H. Hinton's "History and topography of the United States, vol. 2. Phila., 1832, oppo. p. 483.

— Same. EM. 11910.

b. Some changes in clouds, addition of birds in flight, etc., without the border lines, and set in an ornamental frame. On Tablet on frame: NEW YORK; Centre below: THE LONDON PRINTING AND PUBLISHING COMPANY. 4 x 5 9/16; with frame 6 1/4 x 7 5/16.

159. NEW YORK. Right: S. Davenport Sculp.; centre, below: LONDON: PUBLISHED BY THOMAS KELLY, 17 PATER NOSTER ROW. 4 x 6 1/8. Line engraving.

Looking south from St. Paul's.

160. NEW-YORK. Left: Drawn by J. R. Smith; right: Engraved by J. B. Neagle. 5 3/8 x 7 15/16. Line engraving. EM. 11913.

A view from the Bay.

161. NEW YORK. Left: W. G. Wall, pinxt.; right: Peter Maverick scit. 2 13/16 x 4 9/16. Line engraving.

A view from Weehawken.

From "The Traveller's Guide," N. Y., 1833, according to D. McN. Stauffer ("American Engravers," part 2, N. Y., 1907, p. 370).

a. As described.

In "Sketch of the life . . . of John Lacey," by W. W. H. Davis, Privately printed, 1868, extra-illustrated by T. A. Emmet, oppo. p. 23.

b. With faint traces of a border. 2 15/16 x 4 7/16.

c. With added work in upper left corner. Without New York, and with border of one line at top and right, two at left and bottom. 2 15/16 x 4 1/2; to border 3 1/16 x 4 11/16.

In "American engravers: Peter Maverick," scrap-book, p. 24.

162. NEW YORK FROM WEEHAWK. Left: Painted by W. G. Wall; right: On Steel, J. Smillie. 3 11/16 x 5 13/16. Line engraving. [183-?]

Same design as preceding.

163. NEW YORK, | from Jersey City. Left: Drawn by J. Burford; right: Engraved by J. Smillie. 4 x 6 1/4. Line engraving.

a. As described. India paper. EM. 11931.

b. With title changed to VIEW OF NEW

Prints, Hudson River, cont'd.

YORK, FROM JERSEY CITY. | *Drawn and engraved for the New York Mirror, 1831, and with Printed by R. Miller below, to the right.*

In "The New-York-Mirror," April 30, 1831, oppos. p. 337. A windmill is a prominent feature in this view. A windmill appears also in a small wood engraving by J. A. Adams, "View from Jersey City," on p. 17 of S. L. Knapp's "Picturesque beauties of the Hudson River," N. Y., 1835."

164. NEW-YORK. Left: *J. R. Smith del.*; right: *J. Archer Sc.* Border of one line at right and top, two at left and bottom. $5\frac{3}{16} \times 7\frac{13}{16}$; to border line, $5\frac{7}{16} \times 8$. Line engraving.

A view from the harbor.

From J. H. Hinton's "History and topography of the United States," new edition, vol. 2, Boston, 1834, oppos. p. 384.

165. New York from Brooklyn Heights. Left: *T. K. Wharton Del.*; centre: *Steel Plate*; right: *A. W. Graham Sculpt.*; below to right: *R. Miller Print.*; centre, below: **PAINTED & ENGRAVED FOR THE NEW YORK MIRROR 1834.** $6 \times 8\frac{13}{16}$. Line engraving. From "New-York Mirror," April 19, 1834.

166. New York. Left: *J. A. Davis del.*; right: *J. Archer Sc.* Right of centre, below title: *Vol. II, page 384*; centre: *Boston, Samuel Walker.* $5\frac{3}{4} \times 7\frac{13}{16}$. Line engraving. EM. 11914 and 13178.

A view from the Bay.

167. VIEW OF THE CITY OF NEW YORK, | *as it appeared from WEEHAWK a distance of about one Mile during the NIGHT OF THE FIRE, Wednesday December 16th, 1835.—This awful | Conflagration has (according to the latest estimate) destroyed 674 HOUSES and PROPERTY to the Amount of 26,000,000 DOLLARS. | Drawn on Stone by A. Picken from a sketch taken on the Spot by Lieutenant Westbrook | Left: Day & Haghe Lithrs. to the King; centre, below: London Pubd. for G. W. by Reeves & Sons Cheapside, W. Morgan 40 Judd Sq. New Rd., T. Fisher, 1 Hanway St. Oxford St., & J. Reynolds 147 Strand. Points of interest described beneath lower border.* $6\frac{5}{8} \times 9\frac{5}{8}$. Lithograph. EM. 11512.

168. BAY AND HARBOR OF NEW YORK, | *From Bedlow's Island. Left: Painted by John G. Chapman; right: Engraved by James Smillie; centre, below: Published by J. DISTURNELL, New York. | Entered according to Act of Congress in the year 1835 by J. Disturnell in . . . New York.* $4\frac{3}{4} \times 7\frac{1}{2}$. Line engraving.

a. Trial proof, before letters.

b. With following inscription in scratched letters: Centre: *Bay & Harbour of New York*; left: *John G. Chapman*; right: *James Smillie*; right, below: *Printed by A. King.* India paper.

In S. L. Knapp's "Picturesque beauties of the Hudson River . . . Proofs," N. Y., 1835, oppos. p. 13.

c. As described.

d. With title and publication lines changed to: *New York from Bedlow's Island | Published for the New York Mirror, and with A. King Printer below to the left.*

From "New York Mirror," April 15, 1837.

169. THE FERRY AT BROOKLYN, NEW YORK. Left: *W. H. Bartlett*; right: *G. K. Richardson*; centre, below: *London. Published for the Proprietors by Geo. Virtue 26 Ivy Lane, 1838.* $4\frac{7}{8} \times 7\frac{1}{16}$. Line engraving. EM. 11328.

From W. H. Bartlett's "American Scenery," vol. 1, London, 1840, oppos. p. 91. An interesting type of ferryboat, with unroofed centre, is the most conspicuous object. Lower end of New York City seen beyond.

170. VIEW FROM GOWANUS HEIGHTS, BROOKLYN. [Same in French and German.] Left: *W. H. Bartlett*; right: *H. Adlard*; centre, below: *London. Published for the Proprietors by Geo. Virtue, 26 Ivy Lane, 1839.* $4\frac{11}{16} \times 7\frac{1}{8}$. Line engraving.

In Bartlett's "American Scenery," vol. 2, London, 1840, oppos. p. 79. Principally a view of the Bay.

171. VIEW FROM GOWANUS HEIGHTS, (BROOKLYN). Left: *DRAWN AFTER NATURE*, right: *For the Proprietor HERMANN J. Meyer*; left below: *Published for HERMANN J. MEYER; 164 William Str. New York*; right below: *Copyright secured according to ACT OF CONGRESS.* Border of dotted line. $3\frac{15}{16} \times 6\frac{1}{16}$; to border line, $4\frac{1}{8} \times 6\frac{1}{4}$. Line engraving. EM. 11911.

Same design as preceding, with minor changes. From "The United States Illustrated," vol. 1, Part 4 and 5, New York, 1853, oppos. p. 77.

172. BAY OF NEW YORK. | *Engraved for Godey by Alfred Jones.* 4×6 . Line engraving.

Same design as no. 170.

173. VIEW OF NEW YORK, FROM WEEHAWKEN. Left: *W. H. Bartlett*; right: *R. Wallis*; left, below: *NEW YORK, VU DE WEEHAWKEN*; right below: *PROSPECT VON NEW YORK VON WEEHAWKEN ALLS* [mis-engraved for AUS]; centre below: *London. Published for the Proprietors by Geo. Virtue, 26 Ivy Lane, 1839.* $4\frac{3}{4} \times 7\frac{1}{8}$. Line engraving.

From Bartlett's "American Scenery," vol. 2, London, 1840, oppos. p. 30.

— Same. EM. 11935.

173½. NEW YORK FROM WEEHAWKEN. Left: *W. H. Bartlett*; right: *Engraved by J. White*; centre below: *Engraved for the Columbian Magazine.* $4\frac{3}{4} \times 7\frac{1}{16}$. Line engraving.

Same design as preceding, with slight changes in figures in foreground, and added figures beyond. From "The Columbian Magazine," April, 1847, oppos. p. 191.

174. PANORAMA OF THE CITY AND BAY OF NEW YORK: title printed between two rectangular engravings, the whole enclosed in a border of one line. At left within lower border of upper rectangle: *ASHLEY*; same at right within lower border of lower rectangle; centre, over upper border line: *PRESENTED GRATIS WITH NO. 6, GEMS*

Prints, Hudson River, cont'd.

OF FICTION; left, below lower border line: **A SHORT ACCOUNT OF NEW YORK**, followed by printed text. Each rectangle, $3\frac{3}{8} \times 13\frac{1}{8}$; to border line, $10\frac{5}{8} \times 15 \frac{9}{16}$. 1851. Wood engraving.

A view from the West.

175. **NEW YORK**. Right: *S. Davenport, Sculp.*; centre below: **LONDON: PUBLISHED BY THOMAS KELLY, 17, PATERNOSTER ROW.** $4 \times 6\frac{1}{8}$. Line engraving. [184-?] EM. 11962.

A view south from St. Paul's.

176. **S. W. VIEW OF NEW YORK FROM BEDLOW'S I.** Right: *Sherman & Smith. Sc. N. Y.*; below: *Ellis Island with Hudson River beyond, are seen on the left. Governor's Island and East River on the right. New York with the forest of shipping on the East River (Castle Garden and Battery in front) appear in the distance in the central part of the engraving.* $3\frac{3}{8} \times 6\frac{1}{8}$. Line engraving.

From J. W. Barber's "Historical Collections of the State of New York," New York, 1852, oppo. p. 284.

177. **NEW YORK FROM GOVERNOR'S ISLAND.** Left: *Drawn & Engraved*; right: by *F. B. Nichols. Vignette.* $3\frac{3}{8} \times 3\frac{3}{8}$. [1847?] Line engraving.

178. "New York from the steeple of St. Paul's Church, looking east, south and west." $4 \times 6\frac{1}{8}$. Photograph of the first state, 1849, of the engraving by Popperell, after J. W. Hill.

179. **SOUVENIR DE NEW YORK.** [View of the city from the harbor, with four miniature views above and five below, including "Castle Garden," the "Narrows" and the "Battery"; a symbolic figure on each side.] Centre, above title: *W. J. Cooke Scit.*; centre below: *Publié par B. Dondorf, Frankfort s M.* [About 1850.] $6 \frac{5}{16} \times 8 \frac{13}{16}$. Line engraving. EM. 11938.

180. **GENERAL VIEW** | (*From Brooklyn.*) Centre, above: **NEW YORK**; left: *Drawn from nature by Aug. Köllner*; right: *Lith. by Deroz.*—Printed by *Cattier*; centre, above title: *New-York & Paris, published by Goupil & Co.* | 46; centre, below: *Entered according to act of Congress, in the year 1850, by Aug. Köllner, in the clerk's office of the district court for the southern district of New York.* $7 \frac{7}{16} \times 11 \frac{1}{16}$. Lithograph, colored. EM. 11927.

181. **NEW YORK FROM GOVERNORS ISLAND.** Left: **JULIUS KUMMER, NEW YORK, 1850, DEL.**; right: **JOHN POPPEL, SCULPTIST.** With border of one line. $4 \frac{7}{16} \times 6\frac{1}{2}$; to border line, $4\frac{1}{2} \times 6\frac{1}{8}$. Line engraving.

182. **VIEW OF THE CITY OF NEW YORK.** Left, within border: *W*; right, within border: **WORCESTER SC.** In border with rounded corners. $5 \frac{11}{16} \times 9\frac{1}{4}$. Wood engraving.

From Gleason's "Pictorial Drawing Room Companion," 1851.

183. **NEW YORK AND BROOKLYN, | FROM WILLIAMSBURGH.** $4\frac{1}{4} \times 8$. [185-?] Line engraving.

184. **NEW-YORK.—BIRD'S-EYE VIEW FROM UNION SQUARE...**[Looking South.] Left: **BEST et Cie.** 7×9 . Wood engraving.

From "Putnam's Monthly" for February, 1853.

185. **NEW YORK IN 1853 | FROM A PUBLICATION OF THE PERIOD.** Reproduction of a wood engraving by the firm of E. Kretzschmar.

Bird's-eye view from the Southwest.

From the "New York Herald," Sunday, April 5, 1903.

185½. **BIRD'S-EYE VIEW OF THE CITY OF NEW YORK—ILLUSTRATED NEWS, NOVEMBER 26, 1853.** Centre, above title: **PRESENTED TO THE SUBSCRIBERS OF THE ILLUSTRATED NEWS**; left: **FRANK LESLIE SC**; right: **CHAS. PARSONS DEL** view from the Southeast. Above, a view of the Bay; below, a view from the East. Ornamental border. $23\frac{3}{8} \times 35\frac{1}{4}$. Wood engraving.

186. **New York.** Left: *Drawn from nature by L. Sachs*; right: *Published by Stein & Sachs*; centre, above: **VIEW FROM HOBOKEN**, beneath lower border. Rectangle surrounded by ornamental border enclosing small views of **CUSTOM HOUSE, BROADWAY, MERCHANTS' EXCHANGE, CITY HALL, CRYSTAL PALACE, CHATHAM SQUARE.** $2\frac{1}{8} \times 7\frac{3}{4}$; with frame, $6\frac{1}{8} \times 8\frac{5}{8}$. [About 1854.] Line engraving.

A view from the West.

a. Brown ink.

b. Colored.

187. View of New York, from the South. Three sailing vessels and two steamers in the foreground; Castle Garden and the Battery at centre beyond, Governor's Island at right. $5\frac{1}{4} \times 7 \frac{13}{16}$. [About 1855?] Line engraving.

188. **NEW YORK IN 1850.** Left: **J. WELLS N. Y.**; right: **EDMONDS SC N. Y.** $3 \times 5\frac{1}{4}$. Vignette. Wood engraving.

View looking South.

189. **NEW-YORK ET BROOKLYN | Vue prise de Williamsburg.** [Same in English.] Centre, above: **PORTS DE MER D'AMERIQUE—ÉTATS-UNIS**; left: **Paris, L. TURGIS Jne Impr. Editeur, r. des Écoles, 80, et à New-York, Duane St. 78.**; right: *Drawn from nature by J. W. C. Williams.* 12×19 . Lithograph, colored. EM. 11928.

The New York City directory shows that Turgis was at 78 Duane Street during 1857-63.

190. **NEW YORK AND ENVIRONS. NEW YORK UND UMGEGEND.** Right: **Harnisch Sculp.** Rectangle, enclosed by a border of one line, surrounded by ornamental frame. Buildings and other points of interest indicated by printed titles above and below. $9\frac{1}{8} \times 14 \frac{15}{16}$; to border line, $10 \times 15 \frac{1}{16}$; with frame, $11\frac{1}{8} \times 16\frac{1}{2}$. Line engraving. [About 1865.]

a. As described.

its, Hudson River, cont'd.

b. Without name of engraver and German title, and with **DESIGNED AND ENGRAVED FOR THE NEW YORK MANUFACTURER**. 1868. EM. 11902.

THE CITY OF NEW YORK AND ENGLAND. Centre: Engraved and Published by Kimmel & Foster, 254 & 256 Canal St. N. Y.; between centre and left: Hoboken, New Jersey City; between centre and right: Brooklyn. Surrounded by border of one line enclosed by ornamental frame. $4\frac{7}{8} \times 11\frac{1}{16}$; to border line, $4\frac{15}{16} \times 7\frac{13}{16}$; with frame, $5\frac{13}{16} \times 8\frac{3}{8}$. [186-?]. Line engraving.

same design as preceding, with minor changes.

ANSICHT VON NEW YORK. Left: lith. art. Anstalt v. Wilhelm Nübling in Stuttgart. Border of one line. $4\frac{7}{16} \times 7\frac{5}{16}$; to border, $4\frac{9}{16} \times 7\frac{9}{16}$. Lithograph, one tint. "Die Handelswelt: Monatschrift," Bd. 3, [Heft 1], Stuttgart, [1860?].

bird's-eye view; distorted perspective.

NEW YORK, | TAKEN FROM BATTERY PLACE. Left: PUBLISHED BY GEO. DEGEN, 22 BEEKMAN ST. N. Y.; Centre: Entered according to act of Congress in the year 1874 by Geo. DEGEN, in the Office of the Librarian of Congress at Washington, D. C.; right: PRINT. BY G. SCHLEGEL, 17 WILLIAM ST. N. Y. $15\frac{1}{8} \times 23\frac{3}{4}$. Lithograph in colors.

bird's-eye view.

NEW YORK HARBOR, AS SEEN FROM THE BROOKLYN TOWER OF THE SUSPENSION-BRIDGE.—FROM A SKETCH BY C. E. H. BONWILL. $9\frac{1}{8} \times 13\frac{3}{4}$. Wood engraving.

from Harper's Weekly for November 1, 1873.

[View of New York from the East River, with the North River and the Jersey shore beyond. At centre, in foreground, uncompleted pier of Brooklyn Bridge.] $11 \times 8\frac{9}{16}$. Photograph, mounted on linen. [About 1875.]

$\frac{1}{2}$. **NEW YORK, 1880 and NEW YORK, 1900, WITH U. S. S. NEW YORK, AND U. S. S. ST. PAUL.** Photomechanical reproductions of two drawings by Charles Graham, each $3\frac{3}{8} \times 6\frac{1}{8}$, on a calendar of The Audit Company of New York.

A View of New York from Brooklyn. New York Tower of East River Bridge at right; ferry-boat Fulton crossing the river. G. Frank & Pearsall, Photo., 298 Fulton St., Brooklyn, N. Y. $7 \times 8\frac{3}{4}$. Photograph. [About 1835.]

$\frac{1}{2}$. Another view, showing the ferry-boat Hamilton at the foot of the Brooklyn tower of the bridge. G. Frank & Pearsall, Photo., 298 Fulton St., Brooklyn, N. Y. $7\frac{1}{4} \times 9$. Photograph. [About 1885.]

"LIBERTY ENLIGHTENING THE WORLD"—BARTHOLDI'S COLOSSAL STATUE ON BEDLOE'S ISLAND, NEW YORK HARBOR.—DRAWN BY HARRY

FENN. Left: **SUPPLEMENT TO HARPER'S WEEKLY, OCTOBER 30, 1886**; right: **COPYRIGHT, 1886, BY HARPER & BROTHERS.** $13\frac{3}{8} \times 4\frac{1}{2}$. Wood engraving.

198. **SKY-LINE OF THE LOWER END OF MANHATTAN ISLAND FROM THE NORTH RIVER IN 1801.** $2\frac{3}{4} \times 13\frac{3}{4}$.—**SKY-LINE OF THE LOWER END OF MANHATTAN ISLAND FROM THE NORTH RIVER IN 1898.** $5 \times 23\frac{3}{4}$. Two half-tones from photographs, on one page.

199. **THE NEW YORK COLUMBIAN CELEBRATION—THE NAVAL REVIEW.—DRAWN BY VICTOR PERARD.** Left, within border: V. PERARD. 92; left: **COPYRIGHT, 1892, BY HARPER & BROTHERS**; right: **HARPER'S WEEKLY, OCTOBER 22, 1892.** $12\frac{3}{4} \times 42\frac{3}{8}$. Wood engraving.

200. [New York in 1899.] **COPYRIGHT 1899 BY GEO. P. HALL, 157 FULTON ST. N. Y.** Calendar for 1900, issued by G. P. Hall & Son, 157 Fulton St. $3 \times 14\frac{13}{16}$. Half-tone from photograph.

201. **THE SECOND CITY OF THE WORLD:** title describing two views. Upper: **LOWER NEW YORK AS SEEN FROM BROOKLYN SIDE OF THE EAST RIVER**; lower: **BATTERY PARK AND THE UPPER BAY WITH ITS ISLANDS.** Half-tone from photographs.

From "The Mail and Express Illustrated Saturday Magazine," August 5, 1899.

202. **VIEW OF THE LOWER END OF MANHATTAN ISLAND FROM THE EAST RIVER, SHOWING THE GREAT BUILDINGS ON THE STREETS FROM THE BATTERY TO THE WORLD BUILDING.** Two sections, each $3\frac{5}{16} \times 10\frac{1}{16}$. Half-tone from photograph.

In "The New Metropolis, 1600-1900 . . .", edited by E. I. Zeisloft" (N. Y., copyright 1899).

203. **VIEW OF MANHATTAN ISLAND AT NIGHT, FROM A JERSEY CITY FERRY BOAT.** $8 \times 17\frac{1}{2}$. Color-print from a drawing by Charles Graham.

In "The New Metropolis, 1600-1900 . . .", edited by E. I. Zeisloft" (N. Y., copyright 1899).

204. **BIRD'S-EYE VIEW OF THE SOUTHERN PART OF NEW YORK . . .** $8\frac{3}{4} \times 12\frac{15}{16}$. Half-tone from a drawing by Richard W. Rummel.

In King's "Views of New York City," 1903, p. 6. Reproduced in the "New York Herald" of April 5, 1903, and in an advertisement by the National Bank of North America.

205. **WHAT FIFTEEN YEARS HAS DONE FOR LOWER NEW YORK.** Two views of New York, from No. 1 Broadway to the World building, taken in 1890 and 1905 respectively. Half-tone from *Photographs by Hall*.

From "Evening Mail," N. Y., July 1, 1905.

206. **Transformation of the Sky Line of New York Between 1880 and 1909:** title, below which are four views of the sky line of New

Prints, Hudson River, cont'd.

York City in 1880, 1896, 1902, and 1909. Beneath each view descriptive printed text.

From the New York "Sun" of March 21, 1909.

This and the preceding newspaper and advertising prints are included here solely because they illustrate the increase of the sky-scraper.

206½. Photograph post cards, published by the Rotograph Co., N. Y., viz.: "Moonlight, N. Y. Harbor," "Misty morning on New York Bay," "U. S. Government Ferry-Boat 'General Hancock,' Governor's Island, N. Y.," "Statue of Liberty," "Immigrant Station, Ellis Island," "New York Sky Line from Governor's Island" (1909), "New York Harbor," "Battery Park," "The Hudson River Tunnel terminal from the water front," "The Soldiers and Sailors Monument, Riverside Drive," "Looking toward Grant's Tomb, Riverside Drive," "Riverside Drive, north of 145th St.," "The Palisades" (2 views), "20th Century Limited." 15 pieces.

207. "The Warehouses." A view from Brooklyn, showing the East River Bridge and New York's sky-scrappers. Etching by Henry Winslow. 7½ x 8 5/16.

The Lower East Shore
of
Manhattan Island.

208. JACKSON FERRY, FOOT OF JACKSON ST. EAST RIVER—1861. Left: Lith. of Sarony, Major & Knapp, 440 Broadway, N. Y.; right: for D. T. Valentine's Manual—1863. 5 13/16 x 8. Lithograph, two tints. EM. 11329.

209. VIEW OF MARKET SLIP | taken from the Corner of Cherry St. 1859. Right: for D. T. Valentine's Manual 1860. 5¼ x 8. Lithograph; one tint.

In "New York City during the American Revolution . . . From manuscripts in the possession of the Mercantile Library Association," 1861, extra illustrated, oppos. p. 134.

— Same. EM. 11296.

210. CATHERINE MARKET N. Y. 1850. Left: Lith. by G. Hayward, 120 Water St. N. Y.; right: for D. T. Valentine's Manual for 1857. 3½ x 6 1/16. Lithograph, in color. EM. 11297.

211. "Catherine Market." 1903. 9½ x 6¾. Etching by C. F. W. Mielatz.

212. PECK SLIP, N. Y. 1850. Left: Lith. by G. Hayward 120 Water St. N. Y.; right: for D. T. Valentine's Manual for 1857. 3 7/16 x 6. Lithograph. EM. 10466.

213. "Fulton Market." Etching by Charles Henry White. 7½ x 9.

A reproduction of this print appears in *Harper's Magazine* for September, 1905.

214. Brooklyn Ferry, Fulton Street, New York. [182-?]. Aquatint by C. F. W. Mielatz, '05. From a small platter of Staffordshire pottery by Stevenson. 5 7/16 x 6¾.

Published by the Society of Iconophiles, Series vii, no. 6, 1905. R. H. Lawrence, in his catalogue [1908] of the Society's publications, says: "On the left [right in the engraving] of this view is pictured the entrance to Fulton Market, erected upon

a site purchased by the city in 1821. In the centre the 'Ferry Slips' and the 'Nassau,' the first steam ferry-boat which ran between New York and Brooklyn. The 'Nassau' was launched in 1814 and built on the lines of a catamaran: her motive power being supplied by a large wheel in the center between the two hulls."

215. BROOKLYN FERRY, FULTON ST. | NEW YORK. Left: Drawn by C. Burton; right: Engraved by Hatch & Smillie. 2 11/16 x 3½. [1831.] Line engraving.

216. VIEW OF BROOKLYN, L. I. | FROM U. S. HOTEL, NEW YORK. Left, within border line: PRINTED IN COLORS; right: BY F. MICHELIN, III NASSAU ST.; centre: DRAWN FROM NATURE & ON STONE BY E. WHITEFIELD; centre, below: Entered according to act of Congress, in the year 1846, by E. Whitefield, in the Clerk's Office of the District Court of the South. Dist. of N. Y. Border of one line. 15 x 36¼; to border line, 15½ x 36¾. Lithograph in color. Mounted on linen.

New York slip of Fulton Ferry in foreground. Steamboats "Oregon," "Worcester" and "Rhode Island" among craft in river.

217. SOUTH ST. from MAIDEN LANE. 1834. Left: Wm. I. Bennett Pinxt. et Sculpt.; centre, below: Henry I. Megary, New York. 9¾ x 13½. Aquatint, colored.

— Same, uncolored. EM. 11430.

217½. SOUTH ST. FROM MAIDEN LANE, 1828. Left: Lith. G. Hayward 120 Water St. N. Y.; right: for D. T. Valentine's Manual 1854. 3½ x 6. Lithograph, one tint.

A copy of the preceding.

218. THE DOCK AND RIVER FRONT TO WALL STREET, 1667. 2 x 3¾. Wood engraving. EM. 10516.

219. THE BLOCK-HOUSE AND CITY GATE (FOOT OF PRESENT WALL STREET), 1674. 3 3/16 x 3 7/16. Wood engraving. EM. 10516.

220. TONTINE BUILDING, WALL STREET, NEW YORK 1797. Left: Copied for D. T. Valentine's Manual 1852; right: Lith. by G. Hayward, 120 Water Street, N. Y. 6¼ x 9 7/16. Lithograph, one tint. EM. 12728.

221. COFFEE HOUSE SLIP. Left: Drawn by A. I. Stansbury; right: Engd. by M. I. Danforth; centre, below: Engraved for the Picture of New York and Strangers guide Published by A. T. Goodrich. Border of two lines. 2 13/16 x 3 13/16; to border, 2¾ x 3¾. [1828.] Line engraving.

222. COFFEE-HOUSE SLIP. | (Foot of Wall Street). Centre: Drawn & Engraved by H. Fossette; over upper right corner: Pl. 15. Border of one line at left and top, two at right and bottom. 3 3/16 x 5 13/16; to border line, 3 5/16 x 5¾. [1831?] Line engraving.

a. On same plate with Pl. 16.

In "Views in New York . . . Taken on the spot . . . by Dakin," N. Y., 1831.

b. Separate.

Prints, Hudson River, cont'd.

222½. **COFFEE HOUSE SLIP AND NEW YORK COFFEE HOUSE.** Left: LITH. BY G. HAYWARD 120 WATER ST. N. Y.; right: FOR D. T. VALENTINE'S MANUAL 1856. 3½ x 5 15/16. Lithograph, one tint. Copy of preceding, with lettering on signboards omitted.

223. **FRANKLIN MARKET, OLD SLIP N. Y.** 1820. Left: Lith. for D. T. Valentine's Manual, for 1861.; right: by Geo. Hayward, 171 Pearl St. N. Y. 3½ x 5 15/16. Lithograph, one tint.

— Same. EM. 11295.

224. **VIEW OF THE "SCHOEINGE" OR-STREET PILING ON THE EAST RIVER SHORE NEAR | PRESENT COENTIES SLIP, 1658.** 3½ x 3 9/16. Wood engraving. EM. 10516.

225. **South Street, from Coenties' Slip.** Lithograph by C. F. W. Mielatz. 1898. Society of Iconophiles of New York, Publication No. VII, new series. 8x7½.

226. **Coenties Slip in 1901.** Photogravure reproduction of a monotype in color by C. F. W. Mielatz, 1905. Published by the Society of Iconophiles of New York. 7½ x 5¾.

Various artists have found interesting subjects along the water front of New York City. The Library possesses prints by or after the following:

Bonsonge, R. C. Cox, Ozias Dodge, Henry Farrer, C. F. W. Mielatz, Dr. C. H. Miller, J. C. Nicoll, B. J. Olssen Nordfeldt, C. A. Platt, C. H. White and Henry Winslow, but in the present list only those have been given a place which distinctly illustrate locality.

227. **VIEW OF THE "GRAFT," OR CANAL, IN BROAD STREET, AND THE FISH BRIDGE, 1659.** 3 3/16 x 3 7/16. Wood engraving. EM. 10516.

From "Valentine's Manual," 1862, p. 515.

228. "Broad St. 1659." S. Hollyer, Copyright 1905. 3½ x 5 11/16. Etching.

Hollyer's "Views of Old New York," series 4. Copy of the preceding.

229. **SOUTH STREET AND NEW YORK HARBOR.** Left: N. Y. RECORDER SOUVENIR; 5½ x 8. [188-?] Half-tone in color, from photograph.

230. **STEAM BOAT WHARF, WHITEHALL STREET. | NEW YORK.** Left: Drawn by C. Burton; right: Engraved by Hatch & Smillie. 2 11/16 x 3½. [1831.] Line engraving. India paper.

231. **No. 1. The residence of Jacob Leisler on "the Strand" (now Whitehall Street, N. Y.) | THE FIRST BRICK DWELLING ERECTED IN THE CITY.** 4¾ x 7½. Lithograph in color. EM. 10560.

The Battery and
Castle Garden.

232. **VIEW OF THE SITE OF THE PRES-ENT BATTERY, IN 1656.** Vign. 2½ x 3¼. Wood engraving. EM. 10469.

233. **GOV. STUYVESANT'S HOUSE, ERECT-ED 1658, AFTERWARDS CALLED "THE**

WHITEHALL." 2½ x 3¼. Vignette. Wood engraving. EM. 10468.

From "Valentine's Manual," 1862, p. 500.

234. "Peter Stuyvesant's Town House 1658." S. Hollyer. 3½ x 5¼. Etching.

Hollyer's "Views of Old New York," series 1, no. 29. Same design as preceding.

235. **BATTERY & BOWLING GREEN, N. Y. | as it appeared during the Revolution.** Left: Lith. by Geo. Hayward, 120 Water St., N. Y.; right: for D. T. Valentine's Manual 1858. Border of one line, 3 7/16 x 6; to border, 3½ x 6½. Lithograph, one tint.

In "Valentine's Manual," 1858, oppos. p. 633.

235½. **EVACUATION OF NEW YORK | NOV. 25, 1783.** 1¾ x 2¾. Line engraving on same plate with portrait of Washington, a decorative border surrounding both, 8¼ x 4¾. Centre: **DESIGNED AND ENGRAVED FOR | THE SOCIETY OF ICONOPHILES | NEW YORK 1899; left: F. S. KING | DEL. & SC.**

"The picture of Evacuation is based on the background of the full-length portrait of Washington by John Trumbull, now in the City Hall, New York." The old fort is shown, and Staten Island in the distance.

236. **RECEPTION OF PRESIDENT WASHINGTON AT NEW YORK. | APRIL 23RD, 1789.** Left: J. McNewin; right: J. Rogers; centre, below title: **New York, Virtue, Emmins & Co. | Entered according to act of Congress, in the year 1857** • • • **New York.** 4 11/16 x 6¾. Line engraving.

a. Without the two publication lines. India paper. EM. 11114.

b. As described.

From B. J. Lossing's "Life of Washington," vol. 3, New York, 1860, oppos. p. 88.

237. **WASHINGTON TAKING LEAVE OF HIS OFFICERS.** Left: Darley; right: G. R. Hall; centre, below: **NEW YORK, G. P. PUTNAM;** right, below: **Printed by W. Pate.** Vignette. 4 x 6½. Line engraving. EM. 8858.

In foreground, Washington standing up in rowboat; beyond, the officers on shore.

From Washington Irving's "Life of Washington," vol. 4, N. Y., 1861, oppos. p. 447.

238. **A View of the BATTERY and HARBOR of New York and the AMBUSCADE FRIGATE.** [1793.] Left: J. Drayton Delin; right: S. Hill Sct. Boston. 3¾ x 5½. Line engraving.

In "Letters Written During a Tour Through the Northern and Eastern States of America," Charleston, S. C., 1794, p. 20. A copy of this plate was engraved on copper by E. D. French as a frontispiece for "The Journey of the Iconophiles," New York, 1807, by W. L. Andrews, who says: "To the best of my knowledge this picture is the earliest view of the Battery from the land side, and the only print that shows this point of the island, except from the water, as it appeared after the removal of Fort George and before the erection of the present Castle Garden—i. e., between the years 1790 and 1810. Another copy of the print was engraved on copper by Sidney L. Smith as "Fac-simile no. 10 of the Society of Iconophiles," New York, published in March, 1903.

"Departure of the 'Clermont.'"

See no. 620.

Launch of "Fulton the First," 1814.

See no. 628.

Prints, Hudson River, cont'd.

239. The Battery, New York, Esplanade and Castle Garden. [182-?] Aquatint by C. F. W. Mielatz, 1904, from a platter of Staffordshire pottery by Stevenson. $5\frac{7}{16} \times 6\frac{15}{16}$.

Published by the Society of Iconophiles, Series VII, no. 2, 1904. R. H. Lawrence, in his Catalogue (1908) of the Society's publications, says: "The title 'Esplanade' was that given to the central walk in the Battery, long the favorite society promenade. * * * In the harbor and to the left [right in the engraving] of Castle Garden the artist has inserted a picture of the steamship 'Aetna,' which was destroyed by the explosion of her boilers in 1825."

240. LANDING OF GEN. LAFAYETTE, | At Castle Garden, New York, 16th August, 1824. Left: *Imbert Del.*; right: *Saml. Maverick Sc.* Border of one line at right and top, two at left and bottom. $2\frac{11}{16} \times 4\frac{3}{8}$; to border, $2\frac{13}{16} \times 4\frac{13}{16}$. Line engraving. EM. 11395.

- 240½. LANDING OF GEN. LAFAYETTE, | At Castle Garden, New York, 16th August, 1824. $1\frac{9}{16} \times 2\frac{7}{8}$. Line engraving on same plate, with portrait of Lafayette, a decorative border surrounding both, $8\frac{3}{8} \times 4\frac{11}{16}$. Centre: THIS PLATE MADE FOR | THE SOCIETY OF ICONOPHILES | NEW YORK 1900; left: F. S. KING | DEL. & SC.

"The view of the Battery is a reduced fac-simile of a copper-plate engraved by Samuel Maverick."

241. Castle Clinton and the Battery. [About 1825.] Aquatint by C. F. W. Mielatz, 1906, from "a large platter by Enoch Wood," Staffordshire pottery. $5\frac{3}{8} \times 6\frac{7}{8}$.

Published by the Society of Iconophiles, series vii, no. 8, 1906. R. H. Lawrence, in his Catalogue (1908) of the Society's publications, says: "The foundations of [the fortifications] were laid in 1807 upon a ledge of rocks three hundred feet distant from the shore. The fortress was completed in 1811, and was named the Southwest Battery. In 1816 it was renamed Castle Clinton, after George Clinton. . . . In the same year the Battery was extended seaward; still two hundred feet of the bridge remained. Six years later Castle Clinton was dismantled and ceded back to the city. In 1824 it was leased to one Marsh at an annual rental of \$1,400. Its top was decked over and made into a promenade, where, during the summer, the Castle Garden Band played nightly." A sketch of the history of Battery Park, by Edward Haganman Hall, forming Appendix D of the 8th annual report, 1903, of the American Scenic and Historic Preservation Society, is accompanied by a map showing artificial growth of the water-front. Such a map appears also in J. W. Gerard jr.'s "Treatise on the title of the corporation and others to the streets, wharves [etc.]," N. Y., 1872.

242. GRAND CANAL CELEBRATION. | VIEW OF THE FLEET PREPARING TO FORM IN LINE. Lithograph. EM. 11423. Left: *Imbert's Lithography, New York, 1825*; right: *Arch. Robertson del.* $8\frac{7}{16} \times 40\frac{1}{16}$. Lithograph.

From Cadwallader D. Colden's "Memoir . . . presented . . . at the celebration of the completion of the New York canals," N. Y., 1825, oppos. p. 137.

243. ERIE CANAL CELEBRATION. | NEW YORK NOVEMBER 4th 1825. $1\frac{3}{16} \times 2\frac{7}{16}$. Line engraving on same plate with portrait of De Witt Clinton, decorative border surrounding both, $8\frac{3}{8} \times 5$. Centre: DRAWN & ENGRAVED FOR | THE SOCIETY OF ICONOPHILES | NEW YORK 1900; left: F. S. KING | FECIT.

"The view of the battery is part of a large plate in Cadwallader D. Colden's 'Memoir . . . celebration of the completion of the New York Canals,' New York, 1825."

244. Castle Garden, New York. Left, within border: *Breton del.*; right, within border:

Gilbert. [183-?] Border of one line, $2\frac{15}{16} \times 4\frac{3}{8}$; to border, $3\frac{1}{16} \times 4\frac{1}{2}$. Wood engraving.

— Same. EM. 11394.

245. VIEW OF THE BAY AND HARBOUR OF NEW-YORK, FROM THE BATTERY. Left: *C. Burton, Del.*; right: *Wm. D. Smith, Sc.*; centre, below: *Drawn and Engraved for the New York Mirror, 1830.* Border of one line at left and top, two at right and bottom. 6×9 ; to border $6\frac{3}{16} \times 9\frac{7}{8}$. Line engraving. EM. 11434.

From "The New York Mirror," Jan. 15, 1831.

246. STATEN ISLAND FERRY & U. S. BARGE OFFICE, 1831. Left: *Lith. for D. T. Valentine's Manual, 1853*; right: *by Geo. Hayward, 120 Water Street, N. York.* $3\frac{1}{2} \times 6$. Lithograph.

247. BAY & HARBOUR OF NEW YORK, | FROM THE BATTERY. Centre: *Drawn & Engraved by J. Smillie, from a Sketch by C. Burton.* [1831.] $2\frac{3}{4} \times 3\frac{3}{4}$. Line engraving.

a. On same plate with JUNCTION OF BROADWAY & THE BOWERY; the latter view at top, with Plate 8th over upper right corner. India paper.

b. Separate. India paper.

248. CASTLE GARDEN, | From the Battery. Left: *Wade Del.*; right: *Dougal Sc.*; centre, below: *Published by J. Disturnell 102 & 253 Broady. N. Y.* [1849-] $2\frac{5}{8} \times 4\frac{1}{8}$. Line engraving.

a. On same plate with "Steamboat Landing, Pier No. 1," with general title: VIEWS IN NEW YORK, No. 2. Disturnell was at these addresses in 1848-9, according to the New York Directory.

b. Separate, without the general title.

c. Same as the preceding, without the publication line.

In "New York as it was and as it is, compiled by John Disturnell," N. Y., 1876, oppos. p. 155.

249. BATTERY & CASTLE GARDEN. Left: *Geo. Miller del.* right: *Jas. Smillie Sc.*; centre, below: *Published by J. DISTURNELL, New York.* $2\frac{5}{16} \times 3\frac{7}{16}$. Line engraving. India paper.

a. On same plate with vignette title of "The Pocket Annual, 1848," J. Disturnell, N. Y.

b. Separate. India paper.

The plate was published also as a frontispiece in J. Disturnell's "The Northern Travellers," N. Y., 1844.

250. NEW-YORK HARBOR FROM THE BATTERY. Left: *W. Wade*; right: *Booth*; centre, below: *Published by J. Disturnell 102 & 253 Broady. N. Y.* [1849?] $2\frac{7}{8} \times 4\frac{1}{8}$. Line engraving.

a. On same plate with vignette title-page "The picturesque tourist," published by J. Disturnell at 333 Broadway in 1858.

b. Same, separate.

c. Same.

In "New York as it was and as it is . . . , compiled by John Disturnell," N. Y., 1876, frontispiece.

Prints, Hudson River, cont'd.

251. **NEW YORK BATTERY CASTLE GARDEN BAY NARROWS STATEN ISLD.** [185-?] $3\frac{7}{8} \times 3\frac{3}{8}$ Vignette. Line engraving.

— Same. EM. 10840 & 12344.

252. **CASTLE GARDEN, FROM THE RIVER.** Left: **LEBRETON.** $4\frac{1}{8} \times 8\frac{3}{8}$. [185-?] Wood engraving.

253. **LANDING AT CASTLE GARDEN.** $3\frac{3}{16} \times 5\frac{3}{8}$. Wood engraving.

From "Report of the Special Committee . . . Common Council of New York, . . . for the reception of Louis Kossuth," N. Y., 1852, p. 56.

254. **The Battery, and Castle Garden.** Left: **W. F. P. [?]**; right: **H. H. DEL.** Vignette. 2×4 . Wood engraving.

In J. W. Barber's "Historical Collections of the State of New York," improved edition, N. Y., 1852, p. 200.

255. **CASTLE GARDEN, NEW YORK, 1852.** Left: *Drawn from Nature by G. Hayward, 120 Water St. N. Y.*; right: *for D. T. Valentine's Manual 1852.* $5\frac{7}{8} \times 12\frac{1}{2}$. Lithograph.

256. **PACIFIC STEAMER GOLDEN GATE.** Vign. $4\frac{7}{16} \times 7\frac{1}{16}$. Wood engraving.

Castle Garden at the right. From "Gleason's Pictorial Drawing Room Companion," p. 304 (185-?).

257. **VIEW OF STATE STREET, | fronting the Battery, 1850.** Left: *A. Weingartner's Lithy. N. Y.*; right: *for D. T. Valentine's Manual 1850;* on margin, in pencil: "No 1. STATE ST | FULTON'S HOUSE." $5\frac{1}{4} \times 8\frac{1}{16}$. Lithograph, one tint.

— "State Street and Battery Park, 1852." **S. Hollyer.** Copyright 1903. $3\frac{9}{16} \times 5\frac{1}{4}$. Etching.

Hollyer's "Views of Old New York," series 2, no. 2. A copy of the preceding.

258. **GALE IN NEW YORK BAY, FEBRUARY 10, 1861.** Right, within border: **J. FILMER SC.** $4\frac{1}{4} \times 7\frac{7}{16}$. Wood engraving.

259. **ART SUPPLEMENT TO APPLETON'S JOURNAL—VIEW OF CASTLE GARDEN, AND NEW YORK BAY.** Left, lower corner: **H. Fenn Del.**; right, lower corner: **J. FILMER, SC.**; centre: *Entered, according to Act of Congress, in the year 1860, by D. APPLETON & CO., in the Clerk's Office of the District Court of the United States for the Southern District of New York.* $8\frac{1}{4} \times 25\frac{7}{8}$. Wood engraving.

— Same. EM. 11573.

260. **THE BATTERY, 1860.** Right, within border: **F. A. Liebler [?]** Border of one line. $8\frac{1}{16} \times 12\frac{3}{8}$; to border, $8\frac{1}{4} \times 12\frac{9}{16}$. Lithograph, in color.

260½. **The Old Revenue Office.** Left: **H. Farner 1870.** $6\frac{13}{16} \times 5\frac{7}{8}$. Reproduction of pen drawing.

From "Manual of the Corporation of the City of New York, 1870," oppos. p. 198.

261. **BATTERY, 1870.** $3\frac{9}{16} \times 10\frac{13}{16}$. Below: **BATTERY, 1871.** $3\frac{9}{16} \times 10\frac{3}{16}$. Lithographs in color.

262. **The Battery | from No. 1 Broadway:** left lower corner; right lower corner: **Eliza Greatare.** $4\frac{11}{16} \times 7\frac{7}{8}$. Reproduction of pen drawing. EM. 11820.

From Greatare's "Old New York, . . ." N. Y., 1875. [v. 1], oppos. p. 9.

263. **The Battery and Castle Garden.** Lower right corner: **N. A. CRANSTON SC.** $3\frac{15}{16} \times 9$. Wood engraving.

From "Picturesque America," vol. 2, N. Y., 1874, p. 549.

264. [Castle Garden.] $3\frac{5}{8} \times 7\frac{7}{8}$. [188-?] Photograph.

Surrounded by a fence when used as emigrant station.

265. **State Emigrant Landing Depot, Castle Garden, N. Y.** In lower left corner: **ROY-LANCE-PURCELL, N. Y.** $3\frac{13}{16} \times 6\frac{1}{4}$. Wood engraving. EM. 11833.

266. **CASTLE GARDEN LANDING FOR EMIGRANTS, BARGE OFFICE, BATTERY.** Right, over upper border: *Governor's Island;* left: *100 Views of New York and Environs;* right, below: *Charles Magnus, Publisher.* [About 1880.] $5\frac{1}{4} \times 8$. Wood engraving, in color.

At top of sheet of writing paper.

267. **BATTERY-TERMINUS OF NEW YORK ELEVATED RAILROADS.** Left: *36 Views of New York and Environs;* right: *Charles Magnus, Publisher;* between centre and right: **CASTLE GARDEN, Landungsplatz der Einwanderer.** [About 1880?] $4\frac{15}{16} \times 7\frac{13}{16}$. Wood engraving in color.

At top of sheet of writing paper.

268. "The Battery." **Mielatz | '89** in lower left corner. $6\frac{13}{16} \times 9\frac{3}{4}$. Etching by C. F. W. Mielatz.

269. **The Battery and Castle Garden.** Lithograph by C. F. W. Mielatz. $9\frac{5}{16} \times 6\frac{5}{8}$. 1898.

Society of Iconophiles of New York. Publication no. 1, new series.

270. **The Aquarium, formerly Southwest Battery, New York.** $4\frac{1}{4} \times 7$. Half-tone from photograph.

In 13th annual report, 1908, of the American Scenic and Historic Preservation Society, oppos. p. 88.

Points on the West Shore of New York City.

271. **STEAMBOAT LANDING, | Pier No. 1 North River.** Left: **Wade Del;** right: **Dougal Sc;** centre, below: *Published by J. Disturnell 102 & 233 Broady. N. Y.* $2\frac{5}{8} \times 4\frac{1}{16}$. [1849?] Line engraving.

a. As described. On same plate with "Castle Garden." See 248a.

b. Separate, without the general title **VIEWS IN NEW YORK, No. 2.**

c. Without publication line.

In "New York as it was and as it is . . .," compiled by John Disturnell, N. Y., 1876, oppos. p. 191.

272. **STEAM BOAT WHARF, BATTERY PLACE, | NEW YORK.** Left: **Burton del;** right: **Gimber Sc.** [About 1830.] $2\frac{11}{16} \times 3\frac{3}{8}$. Line engraving. India paper.

Prints, Hudson River, cont'd.

273. "No. 1 Broadway—Washington Hotel 1851." *S. Hollier. Copyright 1904.* $3\frac{1}{2} \times 5\frac{7}{16}$. Etching.

The river is seen at the left. Hollier's "Views of Old New York," series 3, no. 2.

274. GREENWICH ST. BELOW THAMES ST. 1861. Left: *Lith. of Sarony, Major & Knapp, 440 Broadway, N. Y.*; right: for *D. T. Valentine's Manual, 1863*. Border of one line. $3\frac{3}{8} \times 5\frac{11}{16}$; to border, $3\frac{7}{16} \times 5\frac{13}{16}$. Lithograph, in two tints. EM. 12760. A glimpse of the river is shown.

275. Old Jersey Ferry House | corner of Greenwich and Cedar Streets: left lower corner. Above title: begun on | *Washington's Birthday, 1875*; right lower corner: *Eliza Greatorrex, 498 x 7 1/12*. Reproduction of pen drawing. EM. 11298.

From Greatorrex's "Old New York . . ." N. Y., 1875. [v. 1], oppo. p. 32.

"The landing-place of Washington when . . . he first came to New York as general of the Revolutionary army."

276. Jersey Ferry House | Cor. Greenwich & Cedar St.; left lower corner: finished on | *Washington's Birthday* | *Eliza Greatorrex 1875.* $8\frac{1}{8} \times 5$. Reproduction of pen drawing. A different view of the building.

277. LANDING PLACE, FOOT OF COURTLANDT ST. | NEW YORK. Left: *Drawn by G. Burton*; right: *Engraved by J. Smillie.* $2\frac{11}{16} \times 3\frac{9}{16}$. [1831.] Line engraving. India paper.

278. VIEW OF WASHINGTON MARKET | from the S. E. cor. of Fulton & Washington Sts. 1859. Left: *A. Weingartner's Lithy. 87 Fulton St. N. Y.*; right: for *D. T. Valentine's Manual 1859.* $5\frac{3}{4} \times 8\frac{1}{16}$. Lithograph; one tint.

In "New York City during the American Revolution . . . From manuscripts in the possession of the Mercantile Library Association," 1861; extra-illustrated, opposite p. 24.

279. "Washington Market," 1859. *S. Hollier. Copyright 1907.* $3\frac{11}{16} \times 5\frac{11}{16}$. Etching. Hollier's "Views of Old New York," series 6. A copy of the central portion of the preceding.

280. FALL RIVER BOAT AT THE PIER. $2\frac{7}{8} \times 4\frac{1}{2}$. Half-tone from photograph.

Pier 18 and surroundings seen from the water. In "The New Metropolis, 1600-1900 . . .," edited by E. I. Zeisloft" (N. Y. copyright 1899), p. 109.

281. North Battery, foot of Hubert St., New York. Left: *Robert W. Weir Pinxit*; centre: *Steel Plate*; right: *James Smillie Sculptit.*; centre below: *Painted & Engraved for the New York Mirror 1833.* $6\frac{1}{8} \times 9$. Line engraving.

From "New York Mirror," July 6, 1833.

— Same. EM. 11360.

282. NORTH BATTERY, FOOT OF HUBERT ST.—1812. Left: *Lith. for D. T. Valentine's Manual, 1855*; right: by *George Hayward, 120 Water Street, N. Y.* $3\frac{1}{2} \times 6\frac{1}{8}$. Lithograph.

283. NORTH BATTERY, FOOT OF HUBERT ST. LOOKING SOUTH, 1820. Left: *Lith.*

by *Geo. Hayward*; right: for *D. T. Valentine's Manual for 1859.* $6 \times 15\frac{3}{16}$. Lithograph, one tint.

In "Valentine's Manual," 1859, oppo. p. 252.

284. The Hay-sloops of the North River. Centre below: From an original picture. Designed and Engraved expressly for the *New Mirror* by *W. J. Bennett.* $5\frac{1}{8} \times 7\frac{7}{8}$. Aquatint engraving.

From the "New Mirror," vol. 2, New York, 1843, opp. p. 146. From note at top of page, left column: "The scene represented by the artist is the well-known hay-market at the foot of Duane Street, which is most accurate in all its details. Fanny Kemble thought the sloops of the North River the most picturesque things she had seen in this country."

285. PANORAMA OF THE EMBARKATION OF THE FIRE ZOUAVES ON BOARD THE BALTIC APR. 29TH 1861. | TAKEN FOOT OF SPRING & CANAL ST. Left: *Lith. of Sarony, Major & Knapp, 440 Broadway, N. Y.*; right: for *D. T. Valentine's Manual, 1862.* $5\frac{3}{4} \times 11$. Lithograph, in color. EM. 11682.

286. A photograph, $12 \times 15\frac{3}{8}$, of pier 43, Spring St., North River, with "Great Southern Freight Line" over top of pier, and "Empire Line . . . No. 5, Bowling Green" on the wall below, to the right. The "Empire Line" appears with both these addresses only in the 1876 volume of "Goulding's Business Directory" of New York City.

287. Oyster Market on West Street. Photograph reproduction of a monotype in color by C. F. W. Mielatz, 1905. Published by the Society of Iconophiles of New York. $7\frac{13}{16} \times 5\frac{7}{16}$.

Published by the Society of Iconophiles of New York.

288. Oyster Market, near Christopher Street. $6\frac{1}{2} \times 9\frac{1}{8}$. Lithograph by C. T. W. Mielatz. Society of Iconophiles of New York, Publication no. VIII, new series.

289. West Street, New York, from the Hudson, showing the docks at West 10th St. Photograph, probably taken by P. Van der Weyde, about 1887. $4\frac{3}{8} \times 7\frac{3}{8}$.

290. WHITE STAR LINE, SHOWING THE TEUTONIC AT HER PIER. $4\frac{3}{8} \times 7$. Half-tone from photograph.

In "The New Metropolis, 1600-1900 . . .," edited by E. I. Zeisloft" (N. Y., copyright 1899).

291. THEOLOGICAL SEMINARY BETW. 20TH & 21ST STS. & 9TH & 10TH AVES. Left: *Lith. of Sarony, Major & Knapp, 440 Broadway, N. Y.*; right: for *D. T. Valentine's Manual 1863*. Border of one line. $5\frac{3}{4} \times 8$; to border $6 \times 8\frac{3}{4}$. Lithograph in colors.

A glimpse of the river is caught on the left.

In Valentine's "Manual," N. Y., 1863, oppo. p. 298.

292. "Theological Seminary, 1833." *S. Hollier. Copyright 1906.* $6\frac{1}{2} \times 5\frac{5}{8}$. Etching.

Hollier's "Views of Old New York," 5^o series. The building is not entirely the same as in the preceding print; it is crenellated at the top.

293. THE RAPELYEA ESTATE (PROPERTY OF MRS. CARNS). | CALLED THE WHITE COTTAGE—FOOT OF 35TH ST. NORTH RIVER. Left: THE MAJOR

Prints, Hudson River, cont'd.

& KNAPP, ENG. MFG. & LITH. CO. 71 BROADWAY, N. Y.; right: FOR D. T. VALENTINE'S MANUAL, 1866. $3\frac{3}{8} \times 5\frac{3}{4}$. Lithograph, in colors.

— Same. EM. 13195.

294. DESTRUCTION OF THE WEEHAWKEN FERRY-HOUSE, FORTY-SECOND STREET, BY THE RIOTERS, JULY 15. $4\frac{7}{16} \times 6\frac{3}{16}$ in. Wood engraving. EM. 11732.

295. Stryker Mansion | Hudson River at 53d Street | View from the Rocks: left lower corner. Right lower corner: Eliza Greatorex. $4\frac{9}{16} \times 7\frac{1}{2}$. Reproduction of pen drawing. In: Greatorex's "Old New York..." N. Y., 1875, [v. 1], oppos. p. 119.

296. "North River from 15th floor of Carnegie Music Hall." $9\frac{7}{8} \times 12$. Etching by B. J. Olsson Nordfeldt.

296½. Perrit Mansion | At 76th St. In Bloomingdale: lower left corner. Lower right corner: Eliza Greatorex | Sep. 1868. $4\frac{1}{4} \times 7\frac{3}{4}$. Reproduction of pen drawing. In Eliza Greatorex's "Old New York," N. Y., 1875, oppos. p. 192.

297. Soldiers' and Sailors' Memorial Monument, Riverside Park, foot of West Eighty-Ninth St. Photograph taken by P. E. Duboy, for Stoughton and Stoughton, Architects. $9\frac{7}{8} \times 12\frac{3}{4}$. About 1906.

298. THE HUDSON RIVER AND RIVERSIDE PARK $3\frac{15}{16} \times 7\frac{3}{8}$.—RIVERSIDE DRIVE AND RIVERSIDE AVENUE, LOOKING TOWARD GRANT'S TOMB. $3\frac{13}{16} \times 10\frac{3}{16}$. From a drawing by C. Graham 1898.—RIVERSIDE PARK ALONG THE HUDSON RIVER, $7 \times 5\frac{9}{16}$.—RIVERSIDE DRIVE AND GRANT'S TOMB, OVERLOOKING THE HUDSON RIVER, $6 \times 8\frac{1}{8}$.—VIEW OF MORNINGSIDE (CATHEDRAL) HEIGHTS, THE HUDSON RIVER, AND NEW JERSEY PALISADES, $8\frac{1}{2} \times 21\frac{1}{2}$. From drawings by Charles Graham 1898. Half-tones from photographs, excepting two from drawings as indicated.

In "The New Metropolis. 1600-1900...", edited by E. I. Zeisloft" (N. Y., copyright 1899).

298½. THE OLD ABBEY HOTEL ON BLOOMINGDALE ROAD (1847.) Left: LITH. OF MAJOR & KNAPP 449 BROADWAY N. Y.; right: FOR D. T. VALENTINE'S MANUAL, 1864. $3\frac{3}{8} \times 5\frac{3}{8}$. Lithograph in colors.

View near 102d St. In "Valentine's Manual," 1864, oppos. p. 386.

299. STRAWBERRY HILL HOTEL, NOW WOODLAWN. Left: LITH. BY G. HAYWARD, 120. WATER ST. N. Y.; right: FOR D. T. VALENTINE'S MANUAL 1856. $3\frac{7}{16} \times 5\frac{3}{8}$. Lithograph, one tint.

In Valentine's "Manual," 1856, p. 514; text on p. 514 states "The house commands a... view of the lordly Hudson for many miles north and south..." from Sing Sing to the Narrows." A glimpse of the river at the left.

This house stood on Eleventh Avenue, between 106th and 107th Sts., according to H. S. Mott ("The New York of Yesterday," N. Y., 1908, p. 47), who says also that it was subse-

quently opened as the "Woodlawn Hotel," and adds that the title "Strawberry Hill Hotel," by which Valentine dubs it, was never used, although it might easily arise as a local designation because the enormous quantities of wild berries along the river caused the locality to be known as Strawberry Hill."

300. "Strawberry Hill Hotel (now Woodlawn) 1852." S. Hollier. $3\frac{3}{8} \times 5\frac{3}{8}$. Etching.

Hollier's "Views of Old New York," series 1, no. 32. A copy of the preceding.

300½. STRIKER'S BAY MANSION, 1852 | From the painting in possession of the author. $4 \times 6\frac{9}{16}$. Half-tone.

In H. S. Mott's "The New York of Yesterday," N. Y., 1908, oppos. p. 118.

301. Lunatic Asylum, New York. Left: Robert W. Weir Pinxt.; right: James Smillie Sculpt.; centre, above title: Steel Plate; below title: PAINTED & ENGRAVED FOR THE NEW-YORK MIRROR, 1834. $6\frac{3}{16} \times 9\frac{1}{16}$. Line engraving. EM. 12783.

From "New-York Mirror," Feb. 1, 1834.

301½. Lawrence Mansion | In Bloomingdale: lower left corner. Lower right corner: Eliza Greatorex | Sep. 1868. $4\frac{1}{4} \times 7\frac{7}{16}$. Reproduction of pen drawing.

In Eliza Greatorex's "Old New York," N. Y., 1875, oppos. p. 198.

302. RESIDENCE OF THE POST FAMILY,—NOW CLAREMONT HOTEL. | Bloomingdale Road near Manhattanville, 1860. Left: Lith. of Sarony, Major & Knapp, 449 Broadway, N. Y.; right: for D. T. Valentine's Manual, 1861. $3\frac{5}{16} \times 5\frac{13}{16}$. Lithograph. EM. 11160.

303. Clairmont | Bloomingdale | 1870: left lower corner. Right lower corner: Eliza Greatorex. $6\frac{13}{16} \times 4\frac{5}{8}$. Reproduction of pen drawing.

In Greatorex's "Old New York..." N. Y., 1875 [v. 2], oppos. p. 203.

303½. "MOTT'S POINT ON THE HUDSON," 1884 | From an oil painting by W. L. Sonntag, N. A. in possession of the author. $4 \times 5\frac{7}{16}$. Half-tone.

In H. S. Mott's "New York of Yesterday," N. Y., 1908, oppos. p. 356.

304. THE DEVELOPMENT OF MORNINGSIDE HEIGHTS, NEW YORK CITY—HOW IT WILL LOOK ON THE COMPLETION OF THE BUILDINGS NOW IN COURSE OF ERECTION.—Drawn by G. W. Peters. $13 \times 19\frac{3}{16}$. Half-tone.

From "Harper's Weekly," 1897, v. 41, no. 2095, pp. 156-157.

305. PANORAMIC VIEW OF COLUMBIA UNIVERSITY BUILDINGS ON MORNINGSIDE HEIGHTS. $4\frac{5}{8} \times 15\frac{3}{8}$. Half-tone after photograph.

From "New York Tribune Illus. Suppl." Oct. 23, 1904, pp. 6-7.

305½. HUDSON TOWER AND LORD COURTNEY'S, 1814 | From a water color accompanying General Swift's Report | "Hudson Tower was commenced July 16, 1814, and was located at Monte Alta, on the river near 123d St." | GUERNSEY. $3\frac{3}{8} \times 5\frac{3}{8}$. Half-tone.

In H. S. Mott's "The New York of Yesterday," N. Y., 1908, oppos. p. 76.

Prints, Hudson River, cont'd.

306. *A PART OF GREATER NEW YORK.—BIRD'S EYE VIEW OF THE MAUSOLEUM AND ITS NEIGHBORHOOD AS IT WILL APPEAR.* Right, within border: G. W. Peters; below: *REMOVING THE BODY OF GENERAL GRANT TO ITS FINAL RESTING-PLACE.* Copyright, 1897, by Leslie's Weekly. $9\frac{3}{4} \times 13\frac{1}{4}$. Half-tone after drawing by G. W. Peters.

307. *VIEW OF MANHATTANVILLE, TAKEN FROM FORT HAIGHT, 1860.* Left: *Lith. of Sarony, Major & Knapp, 449 Broadway, N. Y.*; right: *for D. T. Valentine's Manual 1861.* With border of one line. $5\frac{1}{2} \times 8\frac{1}{16}$; to border line, $5\frac{3}{4} \times 8\frac{1}{4}$. Lithograph, with one tint.

308. *THE AUDUBON ESTATE on the Banks of the Hudson, Foot of 156th St. at Carmansville.* Left: *LITH. OF MAJOR & KNAPP, 449 BROADWAY, N. Y.*; right: *FOR D. T. VALENTINE'S MANUAL, 1865.* $5\frac{1}{2} \times 13\frac{1}{16} \times 8\frac{1}{8}$. Lithograph, in colors.

309. "Audubon Estate (Carmansville) 1850." S. Hollyer, Copyright 1903. $3\frac{3}{8} \times 5\frac{5}{8}$ Etching.

Hollyer's "Views of Old New York," series 2, no. 3. A copy of the preceding.

310. *Fort Washington.* $2\frac{1}{4} \times 5\frac{3}{16}$. Wood engraving after J. D. W[oodward]. From "The Art Journal," N. Y., 1875, p. 7.

311. *VIEW FROM FORT WASHINGTON.* Right: J. W. ORR N. Y. Vign. $3\frac{3}{8} \times 3\frac{9}{16}$. Wood engraving. EM. 7925.

312. *OLD EARTHWORKS ON CHITTENDEN'S ESTATE—WEST ANGLE OF FORT.* Above: *RELICS OF THE PAST ON WASHINGTON HEIGHTS.* $3\frac{3}{8} \times 5\frac{3}{4}$. To border line. $3\frac{3}{8} \times 6$. Lithograph in colors. EM. 10951.

From Valentine's Manual, 1866, oppos. p. 657.

313. *JEFFREY'S HOOK.* | $3\frac{3}{8} \times 3\frac{3}{8}$. Vignette. Wood engraving. [1866.]

From Benson J. Lossing's "The Hudson, from the Wilderness to the Sea," N. Y., 1866, p. 379. Shows the Palisades.

314. *Jeffrey's Hook.* $5 \times 5\frac{3}{16}$. Wood engraving after J. D. W[oodward]. From "The Art Journal," 1878, p. 7.

315. *THE HUDSON RIVER AT INWOOD.* $7 \times 8\frac{1}{2}$. Half-tone from photograph.

In "The New Metropolis, 1600-1900 . . .," edited by E. I. Zeisloft" (N. Y., copyright 1890).

316. *SPUYTEN DUYVIL CREEK.* $3\frac{3}{4} \times 3\frac{5}{16}$. Vign. EM. 10950. Wood engraving. The Palisades seen beyond.

317. *SPUYTEN-DUYVIL CREEK.* [Near the entrance where the Palisades can be seen rising in the distance.] $6\frac{5}{8} \times 6\frac{3}{8}$. Wood engraving.

From "Picturesque America," vol. 2, N. Y., 1874, p. 560.

Points on the Jersey shore, opposite New York City.

318. *S. E. VIEW OF JERSEY CITY, FROM NEW YORK.* | The above shows the appearance of Jersey City, as seen from near the Battery, in New York. The Works of the Jersey City Glass Co. | are seen on the left; the Car House of the New Jersey Railroad is seen on the right. Border of one line, $3\frac{3}{16} \times 6\frac{5}{16}$; to border line, $3\frac{5}{16} \times 6\frac{3}{8}$. [185-?] Wood engraving.

Ferry boat "Jersey City" on the river.

319. *HOBOKEN.* Left: *Drawn by James Smilie;* right: *Engraved by Robert Hinshelwood.* $4\frac{13}{16} \times 7\frac{5}{16}$. Line engraving.

a. With inscription in scratched letters, and Eng^d. for Engraved. Right, below: *Printed by A. King.* India Paper.

In S. L. Knapp's "Picturesque beauties of the Hudson River . . . Proofs," N. Y., 1835, oppos. p. 21.

b. As described.

In "A history of the Tammany Society. Illustrated by Wm. L. Andrews," oppos. p. 16.

320. *The Ferry house at Hoboken.* Near right upper corner: 43. The ferryhouse is labeled *CHRISTOPHER, CANAL, BARCLAY.* Trimmed close at left, top, and bottom; border line at left and right. $5\frac{1}{2} \times 8\frac{7}{8}$. [184-?] Lithograph.

320½. *HUDSON RIVER FROM HOBOKEN.* Centre, below title: *Drawn & Engraved by A. Dick;* below title: *New-York, Published March 1832, by Peabody & Co. London, O. Rich No. 12 Red Lion Square;* over upper right corner: *Pl. 14.* Border of one line at top and right, two at left and bottom, $3\frac{1}{4} \times 5\frac{3}{4}$; to border, $3\frac{3}{8} \times 5\frac{7}{8}$. Line engraving.

On same plate with pl. 13. In "Views in New-York . . . Taken on the spot . . . by Dakin." N. Y., 1831.

321. *HUDSON RIVER, FROM HOBOKEN, N. Y.:* title above engraving. Border of one line, $3\frac{7}{16} \times 5\frac{1}{2}$; to border, $3\frac{1}{2} \times 5\frac{9}{16}$. [184-?]

At head of printed page of text.

322. *HUDSON RIVER FROM HOBOKEN.* Left: *Lith. by Geo. Hayward, 171 Pearl St. N. Y.;* right: *for D. T. Valentine's Manual, for 1860.* Border of one line. $3\frac{1}{2} \times 6\frac{1}{16}$; to border, $3\frac{11}{16} \times 6\frac{3}{16}$. Lithograph, one tint.

Same design as preceding.

323. *Hoboken in New Jersey, the Seat of Mr. John Stevens.* | *Drawn, Engraved & Published by W. Birch, Springland, near Bristol, Pennsylvania.* $4\frac{7}{16} \times 5\frac{7}{8}$. Line engraving, colored. EM. 799.

From Birch's "Country Seats of the U. S.," Springland Pa., 1806.

324. *Castle Point, Hoboken.* Wood engraving by W. H. M. after J. D. W[oodward]. $2\frac{1}{2} \times 5\frac{3}{4}$.

From "The Art Journal," N. Y., 1875, p. 6.

325. *View up the Hudson | FROM SYBYL'S CAVE, HOBOKEN.* Left: R. Gignoux;

Prints, Hudson River, cont'd.

right: *W. G. Jackman*. 4 11/16 x 6 7/8. Line engraving.

In "New York Illustrated Magazine," vol. 3, 1847, oppos. p. 97.

326. *ELYSIAN FIELDS, HOBOKEN*. | (*New York in the distance*.) Centre: *Drawn & Engraved on Steel by A. Dick*. Border of one line at top and right, two below and left. 3 3/8 x 5 5/8. [184-?]. Line engraving.

a. As described. Plate 9, not numbered; on same plate with "City Hotel, Trinity and Grace Churches." Below: *New-York, Published Novr. 1831 by Peabody & Co. London, O. Rich No. 12 Red-Lion Square*.

In "Views in New York . . . Taken on the spot . . . by Dakin," N. Y., 1831.

b. Separate. EM. 11830.

c. With second centre line replaced by *For the Ladies Companion*.

d. With *ELYSIAN FIELDS, HOBOKEN*, and no other lettering.

327. *VIEW AT THE ELYSIAN FIELDS*. Vign. 4 3/8 x 3 3/8. Wood engraving. EM. 12799.

328. *A Wood Scene,—Hoboken*. Left: *Painted by Robt. W. Weir*; right: *Engraved by James Smillie*; right below: *Printed by J. & G. Neale*; centre below: *Painted and Engraved for the New York Mirror, 1832*. 5 15/16 x 8 7/8. Line engraving.

From "New-York Mirror," July 7, 1832.

329. *WEEHAWKEN*. Left: *Painted by W. J. Bennett*; right: *Engraved by A. B. Durand*; centre: *Engd. for the New York Mirror | Steel Plate*. Enclosed in ornamental border. 4 1/2 x 5 15/16; to border, 5 5/8 x 8 3/8. Line engraving.

From "New York Mirror," April 20, 1833.

According to the "Catalogue of the engraved work of Asher B. Durand," issued by the Grolier Club in 1895, this is one of "six plates engraved in 1830 for Part I. of what was projected as a serial publication called American Landscape . . . Only one number was issued. These plates were afterwards issued with the New York Mirror, being enclosed in ornamental borders and inscriptions changed from; *Published by Elam Blist*, etc., to *Engraved for the New York Mirror*."

a. As described.

b. Without the border, and with inscription changed to: *SCENE ON THE HUDSON, | For the Ladies Companion*. Right: *Printd. by Cammeyer & Clark, N. Y.*

— Same. EM. 11934.

330. *WEEHAWKEN BLUFF*. Left: *From a Sketch by Davis*; right: *W. S. Barnard Sc.* Border of one line. 2 1/2 x 3 13/16; to border line, 2 5/8 x 4. Line engraving.

331. *VILLA ON THE HUDSON, NEAR WEEHAWKEN*. Left: *W. H. Bartlett*; right: *J. C. Bentley*; centre, below: *London. Published for the Proprietors by Geo. Virtue, 26 Ivy Lane, 1838*.

From W. H. Bartlett's "American Scenery," vol. 1, London, 1840, oppos. p. 123.

332. *Weehawken*. Left: *Painted by John G. Chapman*; right: *Engd. by A. Dick*; below

right: *King, Printer*. 5 x 7 9/16. [184-?]. Line engraving. India paper. EM. 11313.

Inscription in scratched letters.

From S. L. Knapp's "Picturesque beauties of the Hudson River . . . Proofs," N. Y., 1835, oppos. p. 25.

333. *View of Weehawken Bluff from the Hudson | (Looking up)*. Centre, below: *Designed & Engraved expressly for the New Mirror by W. J. Bennett*. 4 3/4 x 7 5/16. Aquatint.

From the "New Mirror," vol. 2, N. Y., 1844, oppos. p. 321.

334. *WEEHAWKEN, | From the Elessian Fields, Hoboken*. Left: *Painted by John G. Chapman*; right: *engraved by A. Dick*; right below: *King, Printer*. 5 x 7 1/2. Line engraving. EM. 12126.

a. As described.

b. With *Elessian* changed to *Elysian*.

335. *HAMILTON-BURR DUELLING GROUND, WEEHAWKEN, N. J.* 4 1/4 x 6 3/4. Half-tone from photograph.

In 11th annual report, 1906, of the American Scenic and Historic Preservation Society, oppos. p. 176.

336. *VIEW OF THE HUDSON RIVER | FROM FORT LEE*. Left: *From Nature & on Stone*; right: *by Chas. Gildemeister*; centre: *Entered according to act of Congress in the year 1851, by Emil Seitz, in the Clerk's Office of the District Court of the South Dist. of N. Y.* 7 1/2 x 10 3/8. Lithograph, colored. EM. 11936.

337. *FORT LEE, ON THE HUDSON*. Lower left corner: *Beech*; lower right corner: *J. FILER SC.* Rounded upper corners. 6 3/8 x 5 15/16. Wood engraving. EM. 10956.

338. *Fort Lee*. Right, within border: *J. D. W[oodward]*. 3 3/4 x 5 5/8. Wood engraving. From "The Art Journal," N. Y., 1875, p. 6.

339. *VIEW OF THE HUDSON, FROM FLAT ROCK, FORT LEE, WITH NEW-YORK CITY IN THE DISTANCE*. 4 3/16 x 6 3/16. Wood engraving. Signed T. B. [monogram].

— Same. EM. 10955.

340. *Manhattan Island from Fort Lee Bluff (Douglas Point)*. 4 3/4 x 7. Half-tone from photograph.

In 13th annual report, 1908, of the American Scenic and Historic Preservation Society, oppos. p. 80.

341. Title, above: *VIEW OF T. POPES FLYING LEVER BRIDGE*. Centre: *Let the Broad and the spacious Hudson stride [and three more lines of verse]*; left: *Pope delt.*; right: *Leney scit.* Border of two lines, 3 1/16 x 7 7/16; to border, 3 3/16 x 7 5/8.

In Thomas Pope's "Treatise on bridge architecture," N. Y., 1812, frontispiece; the same plate appears also opposite p. 203. The little plate (13/16 x 2 5/16), under which four lines of verse, beginning "Like half a Rainbow rising on yon shore," opposite p. 35, and opposite p. 282 is evidently the one referred to on p. 208 thus: "See the eastern abutment of a Bridge represented over the Hudson, in the Frontispiece of this work."

The Palisades.

Pictures of the "Clermont" and other boats passing the Palisades, nos. 614, 622, 623, 607, 608, 715.

342. *"The landing of the British Forces in the Jerseys on the 20th of November 1776 under*

Prints, Hudson River, cont'd.

the command of the Rt. Honl. Lieut. Genl. Earl Cornwallis. Border of two lines, $10\frac{3}{8} \times 16\frac{1}{8}$. To outer border, $10\frac{11}{16} \times 16\frac{3}{8}$. Drawing, colored. EM. 7815.

Manuscript note by Dr. T. A. Emmet: "An original drawing which is supposed to have been done by Lord Rawdon, who served at the time as engineer officer on Cornwallis's staff. It was purchased at the sale of the effects of the late Marquis of Hastings who was a grandson."

343. *LANDING OF THE BRITISH FORCES IN THE JERSEYS, NOVEMBER 20, 1776.* $4\frac{1}{4} \times 7\frac{1}{2}$. Wood engraving.

a. Proof before letters. India paper. EM. 2097 & 10957.

b. As described. EM. 5574.

A reproduction of the preceding, published in "Harper's Monthly," vol. 47, 1873, p. 25.

344. *Characteristic Scenery of the Hudson River.* Centre, above title: Engraved by George Cooke; centre below: London; Published by Longman, Hurst, Rees, Orne & Brown, Paternoster Row, April 1, 1812. Border of three lines, $3\frac{3}{8} \times 6$; to border $3\frac{9}{16} \times 6\frac{3}{16}$. Line engraving.

In John Pinkerton's "General collection of ... voyages and travels," vol. 13, London, 1812, oppo. p. 271.

345. *CHARACTERISTIC SCENERY of the HUDSON RIVER.* $3\frac{3}{8} \times 6$. Line engraving.

From "The Port Folio, new series, by Oliver Oldschool, Esq.," vol. 7, May, 1812, oppo. p. 411. Same design as preceding, with minor changes; sailboat in foreground at right omitted.

346. *VIEW on the HUDSON.* Left: *Fraser Dell*; right: *Hill Sculp.* Border of one line. $2\frac{15}{16} \times 4\frac{7}{16}$; to border $3\frac{1}{4} \times 4\frac{9}{16}$. Aquatint.

From "Analectic Magazine," N. Y., 1817.

347. *PALISADES.* | No. 19 of the *Hudson River Port Folio*. | Left: Painted by W. G. Wall; right: Engraved by J. Hill; centre, below: Published by Henry I. Megarey, New York. Border of two lines, $13\frac{15}{16} \times 20\frac{15}{16}$; to border line, $14\frac{5}{16} \times 21\frac{1}{4}$. Aquatint. [About 1828?].

348. *THE PALISADE ROCKS ON THE HUDSON RIVER, WEST BANK, NEW YORK.* | Left: Drawn by G. Oakley Esqr.; right: Engraved and Printed by Fenner Sears & Co.; centre, below: London, Published May 1, 1831, by I. T. Hinton & Simpkin & Marshall; above right upper corner, within border: 43. Border of one line at right and top, two at left and bottom. $3\frac{9}{16} \times 5\frac{11}{16}$; to border $3\frac{3}{4} \times 5\frac{15}{16}$.

From "History and topography of the U. S.," edited by J. H. Hinton, vol. 2, Phila., 1832, oppo. p. 492.

349. *THE PALISADE ROCKS ON THE HUDSON RIVER, WEST BANK, NEW YORK.* | Left: Drawn by G. Oakley Esqr.; right: Engraved by T. Illman. One border line at right and top, two at left and bottom. $5\frac{1}{8} \times 7\frac{1}{4}$; to border, $5\frac{3}{8} \times 7\frac{9}{16}$. Line engraving. Same design as preceding.

a. As described.

From "History and topography of the United States," edited by J. H. Hinton, new edition, vol. 2, Boston, 1834, oppo. p. 372.

b. With added cross-hatching in sky, without the border lines, and with Vol. II, page 372 below title to right.

350. *Entrée de la Rivière d'Hudson.* At centre, over upper border line: *ÉTATS-UNIS*; over upper right corner: 48. Border of one line, $3\frac{9}{16} \times 5\frac{9}{16}$; to border $3\frac{3}{4} \times 5\frac{13}{16}$. Line engraving.

Same design as preceding, with slight changes.

351. *Palisades naturelles de l'Hudson.* Left: Milbert. Over upper right corner: 26. Border of four lines, $3\frac{3}{8} \times 5\frac{3}{8}$; to border $3\frac{5}{8} \times 5\frac{3}{8}$. Line engraving.

Apparently this belongs to the same series as the preceding.

a. As described.

b. With *Palisadas naturales del Hudson* added after the title. EM. 8015.

352. *View on the Hudson.* | (*The Palisades.*) Left: J. G. Chapman Pt; centre: *Steel Plate*; right: M. Osborne Sc.; centre, below title: *ENGRAVED FOR THE NEW YORK MIRROR* | 1838. $7\frac{13}{16} \times 6\frac{1}{4}$. Line engraving.

353. *THE PALISADES—HUDSON RIVER.* Left: W. H. Bartlett; right: C. Cousen; centre, below: London, Published for the Proprietors by Geo. Virtue, 26 Ivy Lane, 1837. $4\frac{1}{4} \times 7$. Line engraving.

a. As described.

In W. H. Bartlett's "American Scenery," vol. 1, London, 1840, opp. p. 14.

b. With birds in flight added over Palisades.

354. *The Palisades, | From the Landing at Fort Lee.* Centre, above title: *Drawn & Engraved by Jas Smillie*; centre, below: *NEW YORK.* Vign. $3\frac{3}{8} \times 4$. Line engraving.

a. With following inscription in scratched letters: *The Palisades | From the Landing at Fort Lee*; right: J. Smillie Pinxt. et Sculp; right, below: *Printed by A. King.*

In S. L. Knapp's "Picturesque beauties of the Hudson River ... Proofs," N. Y., 1835, preceding title-page.

b. As described.

355. *THE PALISADES ON THE HUDSON RIVER.* Centre, below title: *Engraved expressly for the Family Circle and Parlor Annual.* $4\frac{10}{16} \times 7$. Line engraving. 1849.

356. *THE PALISADES.* Vign. $4\frac{5}{8} \times 3\frac{1}{2}$. Wood engraving. [About 1870.]

357. *THE PALISADES OF THE HUDSON.* In lower right corner: *PAUL DIXON.* Upper corners arched. $5\frac{5}{8} \times 6$. EM. 3542.

From "Appleton's Journal," vol. 5, N. Y., 1871, p. 665.

358. *A Pinnacle of the Palisades.* $7\frac{1}{8} \times 5\frac{3}{16}$. Wood engraving after J. D. Woodward.

From "The Art Journal," N. Y., 1875, p. 8.

359. Views of the Palisades of the Hudson, showing the "Eastern Face of Palisade Cliff at King's Point, Weehawken," "The Palisades at Linwood, from Bulkhead," "... Looking North from the Cliff at Linwood," "... from the River Road, opposite Englewood," "... Looking North from the Cliff, opposite Englewood," "... Looking North from near

Prints, Hudson River, cont'd.

Alpine,"... "From the River, nearly opposite Yonkers;" "The Palisades and Talus Quarry south of Alpine;" "The Palisades and Quarry at Rockland, N. Y.;" "The Palisades South of Alpine;" "... at Alpine;" "Carpenter Brothers' Quarry, on Palisades, at Linwood;" "... [same] "from the River;" "... Looking North from Bulkhead at Linwood;" "... Looking North, near Alpine;" "... One mile North of Alpine;" "... One mile South of State Line." 17 photographs reproduced in half-tone.

From the "New-York News-Letter," 1900.

Yonkers to Sing Sing.

360. **PHILLIPSE MANOR HOUSE, YONKERS, N. Y.** | (Present residence of Judge Woodworth.) | Drawn and engraved for Irving's life of Washington. | NEW YORK, G. P. PUTNAM. Centre: Drawn & Engraved by James Smillie. Upper corners rounded. $3\frac{3}{4} \times 5 \frac{11}{16}$. Line engraving. EM. 3541.

From Washington Irving's "Life of Washington," vol. 3. N. Y., 1861, oppo. p. 471.

361. "A View of Phillipp's Manor and the Rocks on the Hudson, or North River, in N. America, June 18th, 1784." | From a sepia drawing in possession of Hon. D. McN. K. Stauffer. $4\frac{1}{4} \times 7$. Half-tone.

In 13th annual report, 1908, of the American Scenic and Historic Preservation Society, oppo. p. 224.

362. **THE PHILLIPSE MANOR-HOUSE AT YONKERS.** Upper corners rounded. $5\frac{3}{8} \times 6\frac{1}{2}$. Wood engraving by Richardson, N. Y. From "Appleton's Journal," vol. 11, N. Y. 1874, p. 385.

— Same. EM. 2600.

363. **ON THE WAY TO TOWN—BELOW HASTINGS.** In lower left corner: T B, monogram. $3\frac{1}{2} \times 5 \frac{15}{16}$. Wood engraving. EM. 11525.

364. *A View in Hudson's River of the Entrance of what is called the Topan Sea:* title to left in English, and same to right in French. Centre, below: *Sketch'd on the SPOT by his Excellency Governor Powwal. Painted by Paul Sandby, Engraved by Peter Benazech.* London, Printed for Jno. Bowles at No. 13 in Cornhill, Robert Sayer at No. 53 in Fleet Street, Thos. Jefferys the corner of St. Martins Lane in the Strand, Carington Bowles at No. 69 in St. Pauls Church Yard, and Henry Parker at No. 82 in Cornhill. Right: C. I. $13 \times 19\frac{7}{8}$. Line engraving. EM. 5525.

a. As described. EM. 5525.

b. With different publication line, viz.: London, Published according to Act of Parliament May 20 1761 by Thos. Jefferys the Corner of St. Martin's Lane. EM. 2455.

365. **SCHOOL HOUSE, TAPPAN.** Left: Painted by Robert W. Weir; right: Engraved on steel by James Smillie; centre, below: Engraved for the New York Mirror; right, below:

Printed by J. Neale | at Illman & Pilbrow's. $4\frac{7}{8} \times 6\frac{1}{2}$. Line engraving.

From "New York Mirror," Dec. 15, 1839. A glimpse of the river in the distance.

366. **Bourg de Tarry-Town ou Major André fût pris** [same in English, Latin & German.] No. 4. | Imp. Lith. de Bove dirigée par Noël aîné et Cie; left: Lithographié par Bichebois, fig. par V. Adam; right: Dessiné d'après nature par J. Milbert. Above: *Ire Livraison. AMÉRIQUE SEPTENTRIONALE—ÉTAT DE NEW YORK Pl 4.* Border of two lines, $7\frac{3}{8} \times 11\frac{1}{8}$; to border line, $7\frac{3}{8} \times 11\frac{1}{8}$. Lithograph, India paper. EM. 5519.

From "Itinéraire pittoresque du fleuve Hudson..." par J. Milbert, 1828-29.

367. **THE CAPTURE OF MAJOR ANDRE.** | From a painting by A. B. Durand in the possession of the Honble James K. Paulding | Published by the American Art Union exclusively for the members 1845. | Entered according to Act of Congress in the year 1846 by the American Art Union in... New York. Above title, left: **PAINTED BY A. B. DURAND**; centre: **FIGURES ENGD. BY ALFRED JONES**; right: **LANDSCAPE ENGD. BY SMILLIE & HINSELWOOD**; right, below: **PRINTED BY W. E. SMITH.** $13 \frac{3}{16} \times 17\frac{7}{8}$. Line engraving.

The river is seen in the distance. The library has also the 1st proof, showing the figures only.

— Same. EM. 8373.

368. **PICTURESQUE VIEWS IN TARRY-TOWN, WESTCHESTER COUNTY, N. Y.** | [FROM SKETCHES BY OUR SPECIAL ARTIST AND PHOTOGRAPHS BY ROGERS.]

Eleven views occupying full page in "The Daily Graphic," New York, September 24, 1877. No. 9: "View from the Castle," shows the river beyond.

369. **THE MILL POND, SLEEPY HOLLOW, TARRYTOWN, NEW YORK.** Left: **W. R. MILLER, DEL.**; right: **MAJOR, SC.** Rounded upper corners. Trimmed close to top of the page. $6 \frac{5}{16} \times 9\frac{3}{8}$. Wood engraving.

Possibly from "Gleason's Pictorial Drawing Room Companion." About 1853. The creek winds into the river beyond.

370. **Wolfert's Roost, p. 12.** | **Sleepy Hollow.** Vignette. $3 \times 4\frac{1}{8}$. Wood engraving by **RICHARDSON** after **W. H[art]**.

The river is shown in the distance.

371. **HOOK MOUNTAIN.** Half-tone from photograph, in **THE MAIL AND EXPRESS ILLUSTRATED MAGAZINE** for August 3, 1901. $4 \times 6\frac{1}{2}$.

372. **HOOK MOUNTAIN, "POINT-NO-POINT" OR "ROCKLAND POINT" | ON THE HUDSON RIVER** | Now being destroyed by Stone Crushing Works. Above: Presented by | The American Scenic and Historic Preservation Society | Headquarters Tribune Building, New York. $9\frac{1}{4} \times 13\frac{1}{8}$. Photograph.

A reproduction in half-tone, $3\frac{1}{4} \times 7$, was published in the 10th annual report, 1905, of the American Scenic and Historic Preservation Society, oppo. p. 81.

Prints, Hudson River, cont'd.

373. *Bourg de Sing-Sing ou Mount Plaisant* [and same in English, Latin & German.] No. 5 | *Imp. Lith. de Bove dirigée par Noël aîné & Ce.*; left: *Lithographié par L. Sabatier. fig. par V. Adam*; right: *Dessiné d'après nature par J. Milbert*. Above: 2 *Livraison. AMÉRIQUE SEPTENTRIONALE—ÉTAT DE NEW YORK Pl. 1*. Border of two lines, 7 9/16 x 11 1/4; to border line, 7 15/16 x 11 3/8. Lithograph. India paper.

In "Itinéraire pittoresque du fleuve Hudson . . ." par J. Milbert, 1828-29.

374. *SING SING PRISON AND TAPPAN SEA*. [Same title in French and English.] Left: *T. Creswick*; centre: *after a sketch by W. H. Bartlett*; right: *H. Adlard*; centre, below: *London, Published for the Proprietors by Geo Virtue 26 Ivy Lane 1839. 4 3/4 x 7 1/8*. Line engraving. EM. 11204.

From W. H. Bartlett's "American Scenery," vol. 2, London, 1840, oppos. p. 47. To the right, across the river, is seen Hook Mountain.

375. *VILLAGE OF SING-SING*. | (*Hudson River*.) Left: *W. H. Bartlett*; right: *R. Wallis*; centre, below: *London, Published for the Proprietors by G. Virtue, 26 Ivy Lane, 1837. 4 1/8 x 7 1/16*. Line engraving.

From Bartlett's "American Scenery," vol. 1, London, 1840, oppos. p. 49.

376. *VILLAGE OF SING-SING*. | (*Hudson River*.) Left: *W. H. Bartlett*; right: *M. Osborne*. 4 9/16 x 7. Line engraving. Same design as preceding.

377. *VIEW FROM SING SING*. In the foreground near centre two men; beyond, Sing Sing Prison and Tappan Sea. 2 15/16 x 4 11/16. Line engraving in color.

A print of the kind published in "Nelson's guide to the city of New York" (1858 and 1859).

Croton to the Highlands.

378. *MOUTH OF THE CROTON*. 3 3/4 x 3 3/8. Wood engraving. EM. 12130.

379. "Junction of Croton and Hudson." Etching by J. Henry Hill, 1886, signed in pencil. 9 5/8 x 13 3/4.

380. *VIEW NEAR CROTON, N. Y.* | *Hudson River*. Centre: *From nature by E. Whitefield*. Border of one line. 6 1/8 x 9 3/8; to border line, 6 1/2 x 9 3/8. [185-?] Lithograph, one tint.

381. *A Representation of MAJOR JOHN ANDRÉ Adjutant General to the Kings Forces in North America going from the VULTURE SLOOP OF WAR to the shore of Haverstraw Bay in Hudson's River the Night of the 23rd of September, 1780, in a Boat which was sent for him (accompanied by a Mr. Smith) under the sanction of a flag of Truce, by Major GENERAL ARNOLD, who then commanded the Rebel Forces in that district. | The above is an exact Copy of a Drawing sketched with a pen by MAJOR ANDRÉ himself the morning on which he was to have*

been executed, with a desire (it is supposed) of perpetuating | a Transaction which terminated most fatally for him, and found on his Table with other Papers the next Day (being that of his Death) by his servant and delivered by him on his Arrival | at New York to Lieut. COLONEL CROSBIE of the 22nd Regiment, who has caused this Engraving to be taken from the Original in his possession, as a small Mark of his Friendship for that very valuable and unfortunate officer. Right, within border: J. A. fec 1st Oct 1780. 7 x 11 1/2; with title and description, 7 15/16 x 11 3/8. Photograph of line engraving.

A wood-cut (6 x 12 3/4) after M'Nevin, "The tempter and the traitor" (EM. 11036), representing "the treason of Arnold on the night of September 21, 1780," shows Arnold and André, with a glimpse of the river beyond.

382. *Port d'Haverstraw ou de Warren* [same in English, Latin & German] No. 6. | *Imp. Lith. de Bove dirigée par Noël aîné & Ce*. Left: *Lithographié par Bichebois fig. par V. Adam*; right: *Dessiné d'après nature par J. Milbert*. Above: 2e *Livraison. AMÉRIQUE SEPTENTRIONALE—ÉTAT DE NEW YORK Pl. 2*. Border of two lines. 7 13/16 x 11 5/16; to border, 8 1/4 x 11 11/16. Lithograph. India paper. EM. 10461.

From "Itinéraire pittoresque du fleuve Hudson, . . ." par J. Milbert, 1828-29.

383. *STORMING OF STONY POINT*. Left: *J. M'Nevin*; right: *J. Rogers*. 4 5/8 x 6 1/2. Line engraving. EM. 9174 & 10128. Glimpses of the river at right and left.

384. *IMPROVEMENTS AT STONY POINT RESERVATION—STEAMBOAT LANDING*. 4 x 6. Half-tone from photograph.

In 6th annual report, 1904, of the American Scenic and Historic Preservation Society, oppos. p. 30. Other pictures of the Reservation, not showing the river, appear in the 10th report.

385. Arnold's escape to the Vulture. 2 3/8 x 3 3/8—Verplank's Point, where Arnold passed in his flight to the Vulture. 2 3/8 x 3 7/16.

Trial proofs of two etchings by W. H. W. Bicknell, published in "The Varick Court of Inquiry . . . edited by A. B. Hart," Boston: The Bibliophile Society, 1907.

- 385 1/2. *Verplank's Point*.—"Proposed site for the permanent exposition of 1909." Half-tone from photograph, showing the Hudson from Peekskill to Stony Point.

386. *PEEKSKILL LANDING*. | (*Hudson River*.) Left: *W. H. Bartlett*; right: *E. Benjamin*; centre, below title: *London, Published for the Proprietors by Geo. Virtue, 26 Ivy Lane, 1838. 4 13/16 x 7 1/8*. Line engraving.

In W. H. Bartlett's "American Scenery," vol. 1, N. Y., 1840, oppos. p. 61.

387. *VIEW FROM PEEKS KILL LANDING*. "Peekskill" divided by support of banner above, with map: *PLAN OF | THE ATTACK OF | FORTS CLINTON | & | MONTGOMERY. 5 5/16 x 4 7/8*. Wood engraving. EM. 8101.

Printed foot-note: This view is from Peekskill landing, looking up the river. On the left is the Dunderberg, or Thunder Mountain, over which the troops marched to Fort Clinton and Montgomery.

Prints, Hudson River, cont'd.

388. **LIGHT HOUSE NEAR CALDWELL'S LANDING.** | (*Hudson River.*) Left: *W. H. Bartlett*; right: *H. Adlard*; centre, below: *London, Published for the Proprietors by Geo. Virtue, 26 Ivy Lane, 1838.* $4\frac{3}{4} \times 7\frac{1}{2}$. Line engraving.

From *W. H. Bartlett's "American Scenery,"* vol. 1, London, 1840, oppo. p. 63.

389. **Entrance of the Highlands.** Border of four lines. $2\frac{3}{8} \times 3\frac{13}{16}$; to border line, $2\frac{3}{8} \times 4\frac{1}{16}$. Line engraving.

In "Sketches of scenery and manners in the United States," by the author of the "Northern Traveller" [i. e. Theodore Dwight, jun.], N. Y., 1829, oppo. p. 173. At centre of page 173 is the following reference: "The annexed sketch may give a general idea of the form of the mountains which mark the southern extremity of this romantic pass." This, taken with the context, clearly refers to the southern gate or entrance to the Highlands; and the engraving must, therefore, be taken to represent that part of the Hudson between Caldwell's Landing and the Dunderberg on the west side and Anthony's Nose on the east.

390. **DONDER BERG POINT:** title within border. $3 \times 3\frac{1}{4}$. Vignette. Wood engraving. [186-?]]

391. **VIEW on the HUDSON RIVER.** Left: *I. Weld del.*; right: *S. Springsguth Sculp.*; Published Dec. 22, 1798, by *I. Stockdale, Piccadilly.* $6\frac{3}{16} \times 8\frac{11}{16}$. Line engraving.

The view is evidently of that part of the river near Anthony's Nose. In Isaac Weld's "Travels through the States of North America, and the Provinces of Upper and Lower Canada, during the years 1795, 1796, and 1797," 4th edition, vol. 1, London, 1807, oppo. p. 268.

In the 2d edition of the book, vol. 1, 1799, oppo. p. 268, this view appeared with the title *VIEW on the PATOWMAC RIVER, from Mount Vernon.* A foot-note to the list of plates, on the verso of p. xxiii, says: "In some of the impressions, by mistake, called 'View of the Patowmac River from Mount Vernon.'"

392. **View of St. Anthony's Nose, on the North River.** | *Province of New York*; centre, above title: *Engraved by George Cooke*; below title: *London, Published by Longman, Hurst, Rees, Orme & Brown, Paternoster Row, April 1, 1812.* Border of six lines. $5\frac{3}{16} \times 7\frac{9}{16}$; to border $5\frac{7}{16} \times 7\frac{7}{8}$. EM. 8806.

From John Pinkerton's "General collection of... voyages and travels," vol. 12, London, 1812, oppo. p. 621.

393. **Distant View of the Highlands on Hudson River.** Left: *Sketched by J. Glennie Esq.*; right: *Hewitt Sc.* Border of one line. $3\frac{5}{8} \times 5\frac{5}{8}$; to border $3\frac{3}{4} \times 5\frac{13}{16}$. Line engraving.

From "The Port Folio, third series, conducted by Oliver Oldschool, Esq.," vol. 4, no. 4, Oct. 1814, oppo. p. 343.

394. **VIEW NEAR ANTHONY'S NOSE** | (*Hudson Highlands.*): [title also in French and German.] Left: *W. H. Bartlett*; right: *H. Adlard*; centre, below: *London, Published for the Proprietors by Geo. Virtue, 26 Ivy Lane, 1839.* $4\frac{13}{16} \times 7\frac{1}{8}$. Line engraving.

In *W. H. Bartlett's "American Scenery,"* vol. 2, London, 1840, oppo. p. 90.

395. **VIEW NEAR ANTHONY'S NOSE.** | (*Hudson Highlands.*) Left: *W. H. Bartlett*; centre, below: *Engraved for the New York Illustrated Magazine.* $4\frac{3}{4} \times 7$. Line engraving.

Same design as preceding.

a. As described.

*b. With title changed to **CAPT. BUNKERS SLOOP, NORTH RIVER.** | (*Hudson Highlands.*)

396. **ANTHONY'S NOSE.** In the foreground three sailing vessels, with steamer at centre beyond and small sailing vessel at right beyond. In lower right corner: *ANDERSON S.* $5\frac{3}{8} \times 8\frac{1}{2}$. Wood engraving. [1845?]]

397. **SAINT ANTHONY'S NOSE | VIEW ON NORTH RIVER.** In the foreground a steamboat with four funnels; with "CHAMPLAIN, TROY" on the stern; on the left, beyond, a steamer with four funnels. Border of one line. $15\frac{7}{16} \times 23\frac{15}{16}$; to border, $15\frac{5}{8} \times 24\frac{1}{16}$. Lithograph. About 1834. Proof.

*— Same, colored, and with inked inscriptions: **TROY STEAM-BOATS,** | *Built in 1832, A. D.* at left, and **ERIE AND CHAMPLAINE.** | *State of New-York, U. S.* at right. By hand, on paddle-wheel box of near steamer: **CHAMPLAINE TROY,** and on the other boat: **ERIE.** Like the uncolored copy, it shows, in the sky, the penciled (stenciled?) marks put in to guide the colorist.

This and the preceding are the only copies of this print, in any state, that can at present be traced. It is one of the largest and most important of early Hudson River steamboat views. These were the first boats ever built with four smoke-stacks.

398. **VIEW NEAR ANTHONY'S NOSE.** | Right: *Lith. of Sarony & Major, N. Y.* $3\frac{1}{2} \times 5\frac{1}{8}$. Lithograph. [About 1850.]

The firm-name of Sarony & Major appears in the New York City directory from 1847 to 1853.

399. **ANTHONY'S NOSE, ON THE MOHAWK RIVER, NEW YORK.** In lower left corner: *A. Hill.* $5\frac{7}{16} \times 9\frac{3}{8}$. Wood engraving. 1857.

A New York Central R.R. train is passing.

Anthony's Nose. See also No. 723.

400. **"HUDSON HIGHLANDS—NEAR ANTHONY'S NOSE"** | Left: *W. M. Oddie*; right: *J. Duthie*; centre, below: *From the original painting in the possession of the publishers for Irving's Life of Washington* | **NEW YORK G. P. PUTNAM.** Vign. $4\frac{3}{8} \times 7$. Line engraving.

In Irving's "Life of George Washington," vol. 2, N. Y., 1861, oppo. p. 274.

401. A collection of half-tones, from photographic views of the Highlands, from the "New York News Letter," 1901, pp. 3-32, viz.: Fort Montgomery, Iona Island, The last of the Palisades, Stony Point, Verplank's Point, The Point—West Point, Tarrytown lighthouse, The Dunderberg, Anthony's Nose, Southern Gate of Highlands (looking South), View from Hill back of Peekskill, Looking North, from Old Fort Putnam, Sugar-Loaf Mountain, Breakneck Mountain, Northern Gate of Highlands (looking North), Storm King, A Hudson River tow, near West Point.

A series of half-tones from photographs in a pamphlet issued by the Hudson River Day Line in 1909 shows views of the "Southern Gateway of the Highlands," "Stony Point," "The Hudson from West Point," "West Point," "Old Cro' Nest," "Newburgh Bay," "Storm King" and "Kingston Point Landing." They are noted here because in such

Prints, Hudson River, cont'd.

modern prints, easily secured and for that reason, perhaps, often carelessly regarded, views are shown obtainable in no other way.

For older views of the Highlands, see also nos. 707 and 709.

402. *VIEW NEAR FORT MONTGOMERY* | No. 22 of the *Hudson River Port Folio*. Left: Painted by *W. G. Wall*; right: Engraved by *J. Hill*; centre, below: Published by *Henry I. Megarey New York*. Border of two lines, 13 15/16 x 20 15/16; to border, 14 1/4 x 21 3/8. Aquatint. [1824-?]]

a. As described. Greenish ink.

- Same. EM. 5492.

b. 22 changed to 18, and *and transferred to G. & C. & H. Carvill New York* added after *New York*. Brownish ink.

403. *FORT CLINTON WEST POINT*. 3 7/16 x 6 1/8. Aquatint. EM. 5414.

From "The Port Folio," new series, vol. 5, May, 1811, Phila., N. Y., oppo. p. 449.

404. *HUDSON HIGHLANDS—NEAR FORTS CLINTON & MONTGOMERY*. Left: *W. M. Oddie*; right: *J. Duthie*; centre, below: From the original painting in possession of the publishers, for *Irving's Life of Washington*. Vign. 4 5/8 x 6 1/8. Line engraving.

a. India proof, without publication line. EM. 4853.

b. As described.

In *Washington Irving's "Life of Washington,"* vol. 2, N. Y., 1857, oppo. p. 274.

405. *FORT PUTNAM WEST POINT*. 3 9/16 x 6 1/8. Crude aquatint.

From "The Port Folio," new series, conducted by *Joseph Dennie*, Esq., vol. 5, May, 1811, Phila.

406. *FORT PUTNAM*. | Left: Painted by *Robt. W. Weir*; right: Etched by *J. Smillie*, finished by *A. B. Durand*; right, below: Printed by *Thomas Illman*; centre, below: For the *Ladies Companion*. 4 1/2 x 6. Line engraving.

407. *VIEW FROM FORT PUTNAM*. | (*Hudson River*.) Left: *W. H. Bartlett*; right: *R. Sands*; centre, below: London, Published for the Proprietors by *Geo. Virtue*, 26 Ivy Lane, 1837. 4 11/16 x 7. Line engraving.

a. As described.

From *W. H. Bartlett's "American Scenery,"* vol. 1, London, 1840, oppo. p. 40.

b. With 22 added below, over title, and without publication line.

From *W. H. Bartlett's "History of the U. S.,"* vol. 1, N. Y., 1856, oppo. p. 499.

408. *VIEW FROM FORT PUTNAM*. Left: *W. H. Bartlett*; right: *J. N. Gimbrede*; centre, below: Engraved for the *Ladies Companion*.

Same design as preceding, with slight changes.

An oval view of "Fort Putnam, looking North," wood-engraving, appears in "Graham's Magazine," Dec. 1855, oppo. p. 483.

West Point.

409. *WEST-POINT, WITH ITS FORTIFICATIONS & C. 1780*. Centre: Drawn & Engraved by *J. Smillie* from the original drawing made in 1780 by *L'Enfant*, Engineer, U. S.

Army; centre, below: *NEW YORK, G. P. PUTNAM*; right, below: Printed by *W. Pate*. Arched top. 3 in centre, 2 1/8 at ends x 7 1/2. Line engraving.

Mr. J. D. Smillie fixes the date at 1858.

a. As described.

b. With a dash instead of a comma after *West-Point*, and with the title line (*West-Point to 1780*) differently engraved. Plate cut down at both ends, so as to measure 7 7/16 at bottom and a 7/16 at each end.

In *W. Irving's "Life of George Washington,"* vol. 4, N. Y., 1858, oppo. p. 102 and in same 1861, oppo. p. 108.

410. *West Point* in 1780, showing where the great chain was stretched across the *Hudson River*. 2 5/16 x 3 3/8.

Trial proof of an etching by *W. H. W. Ricknell*, published in "The Varick Court of Inquiry . . .," edited by *A. B. Hart*, Boston: The Bibliophile Society, 1907.

411. *Ancient view of West Point*. [*The above view of West Point as it appeared during the revolution, is copied from a plate in the New York Magazine, published in 1790. Explanation: A, Constitution Island, on the east side of the river. B, A chain 450 yards in length, reaching across the Hudson. C, Fort Clinton, the principal fort, and intended for the defence of the river against any naval force.*] Vign. 2 1/8 x 3 1/8. Wood engraving.

In *J. W. Barber's "Historical Collections of the State of New York,"* N. Y., improved edition, 1852, p. 272.

The Library's copy of the "New York Magazine" for 1790 does not contain the plate referred to, nor does it appear in the list of illustrations.

412. *WEST POINT* | No. 16 of the *Hudson River Port Folio*. Left: Painted by *W. G. Wall*; right: Engraved by *J. Hill*; centre, below: Published by *Henry I. Megarey New York*. Border of two lines. 14 x 21 5/16; to border, 14 1/4 x 21 9/16. Aquatint. [1824-?]]

— Same. EM. 8838.

413. *To the Cadets of the WEST POINT MILITARY ACADEMY this print is respectfully dedicated, | by their friend and servant, Geo. Catlin*. Left: Drawn by *G. Catlin*; right: Engraved, Printed and Coloured by *J. Hill*; centre, below: Published May 15th, 1828, by *G. Catlin N. York*. Copy Right secured according to Law | & transferred to *G & C & H. Carvill New-York*. 11 15/16 x 18 3/16. Aquatint in color.

The parade ground, with view of the river.

414. *Vue generale de l'Ecole Militaire de West Point*. [Same in English, Latin & German.] No. 8 | Imp. Lith. de Bove dirigée par *Noël aîné & Ce.* Left: Lithographié par *Derooy*; right: Dessiné d'après nature par *J. Milbert*. Above: 2me. Livraison. AMÉRIQUE SEPTENTRIONALE.—ÉTAT DE NEW-YORK, Pl. 4. Border of two lines. 7 5/8 x 11 7/16; to border line, 8 1/8 x 11 15/16. Lithograph. India paper.

In "Itinéraire pittoresque du fleuve Hudson . . .," by *J. Milbert*, 1828-29.

415. *Plaine de West Point au moment de l'exercice* [same in English, Latin & German] No. 7. | Imp. Lith. de Bove dirigée par *Noël aîné & Ce.* Left: Lithographié par *L. Sabatier*

Prints, Hudson River, cont'd.

fig. par V. Adam; right: *Dessiné d'après nature par J. Milbert. Above: 2c. Livraison. AMÉRIQUE SEPTENTRIONALE—ÉTAT DE NEW YORK, Pl 3.* Border of two lines, $7\frac{3}{4} \times 11\frac{1}{4}$; to border, $8 \frac{3}{16} \times 11 \frac{11}{16}$. Lithograph. India paper.

In "Itinéraire pittoresque du fleuve Hudson...", par J. Milbert, 1828-29.

416. *West Point.* Lithograph. $2\frac{3}{4} \times 4$. [183-?]]

417. *The Sugar Loaf.* Lithograph. $2\frac{3}{4} \times 4$. [183-?]]

On same sheet as preceding.

418. *WEST POINT MILITARY ACADEMY.* Right: *Illman & Pilbrow Sc*; centre, below: *Published by A. K. White.* Border of one line, $2\frac{7}{8} \times 4\frac{7}{8}$; to border line, $2 \frac{15}{16} \times 4 \frac{15}{16}$. Line engraving.

419. *MILITARY SCHOOL, WEST POINT, N. Y.* Right: *Engraved & Printed by Fenners & Co.*; centre, below: *London, Published Nov. 15, 1831, by I. T. Hinton & Simpkin & Marshall.* Over upper right corner: 77. One border line at right and bottom, two at left and top. $4\frac{3}{8} \times 6 \frac{5}{16}$; to border line, $4\frac{1}{2} \times 6\frac{1}{2}$. Line engraving. India paper. From "History and topography of the United States," edited by J. H. Hinton, vol. 2, Phila., 1832, oppo. p. 402.

420. *MILITARY SCHOOL, WEST POINT, N. Y.* Rectangle with bottom and half of left and right sides surrounded by ornamental frame enclosing two small scenes: *HENRY HUDSON FOUNDING NOVA BELGIA OR NEW NETHERLANDS* and *PETER STUYVESANT THE DUTCH GOVERNOR REPROACHING THE BURGOMASTERS WITH COWARDICE ON THE APPROACH OF THE BRITISH FLEET.* At centre, top, small vignette, $4\frac{3}{8} \times 6 \frac{5}{16}$; with frame, $6 \frac{11}{16} \times 8 \frac{15}{16}$. Line engraving.

Same design as preceding. Apparently from "History of the United States," edited by J. H. Hinton, "London [183-?]."]

421. *MILITARY SCHOOL, WEST POINT, N. Y.* Right: *J. Archer Sc.* Border of one line at right and bottom, two at left and top. $5\frac{1}{4} \times 7\frac{1}{2}$; to border, $5 \frac{9}{16} \times 7\frac{3}{4}$. Line engraving.

a. As described.

From "History and topography of the United States," edited by J. H. Hinton; new edition, vol. 2. Boston, 1834, oppo. p. 370.

b. With *Vol. II*, page 370 below title, to right.

c. Without the border lines.

422. *RIVIERE DU HUDSON.* Left: *J. Noël, del. right: Outhwaite Sc.*; centre, above title: *Imp. Ch. Chardon aine Paris.* $4 \frac{7}{16} \times 6 \frac{3}{16}$. Line engraving. About 1850.

Looking toward West Point from the east shore. Railway train and ferry boat "West Point" in foreground.

423. *WEST POINT | (HUDSON)* Left: *DRAWN AFTER NATURE*; right: *For the Proprietor HERMANN J. MEYER*; centre, below title: *Published for HERMANN J. MEYER, 104 William Str., NEW YORK*; right, below: *Copyright secured according to*

ACT of CONGRESS. Border of one dotted line. $4\frac{7}{8} \times 6\frac{1}{8}$; to border, $4 \frac{5}{16} \times 6 \frac{5}{16}$.

In "United States Illustrated," edited by Charles A. Dana, vol. 1, the East, New York [185-?], opp. p. 37.

424. *THE HUDSON, FROM WEST POINT. | Grounds of the U. S. Military Academy.* Left: *F. F. PALMER, DEL.*; centre: *Entered according to act of Congress A. D. 1862, by Currier & Ives, in the Clerk's Office of the District Court of the United States for the Southern District of New York*; right: *LITH. CURRIER & IVES, N. Y.*; half way between left and centre: *BRASS MORTARS, TAKEN IN THE | MEXICAN WAR*; half way between right and centre: *COLD SPRING. | CONSTITUTION ISLAND*; centre, below: *New York, Published by Currier & Ives 152 Nassau Street.* Border of one line, $10\frac{7}{8} \times 15\frac{1}{2}$; to border, $11 \frac{1}{16} \times 15 \frac{11}{16}$. Lithograph.

425. *West Point, from the River.* $3\frac{5}{8} \times 6\frac{7}{8}$. Wood engraving after J. D. W[oodward].

426. *THE TOMB OF KOSCIUSKO.* Left: *W. H. Bartlett*; right: *R. Young*; centre, below: *London, Published for the Proprietors by Geo. Virtue 26 Ivy Lane 1837.* $4\frac{3}{4} \times 6 \frac{15}{16}$. Line engraving.

In W. H. Bartlett's "American Scenery," vol. 1, London, 1840, oppo. p. 30.

427. *THE TOMB OF KOSCIUSKO.* Left: *W. H. Bartlett*; right: *R. Wallis*; centre, within border line: *PYNE.* $4\frac{7}{8} \times 7 \frac{1}{16}$. Line engraving.

The tomb occupies the same position as in the preceding print, but the general design is different.

a. As described.

In W. H. Bartlett's "History of the United States," vol. 1, New York, 1856, oppo. p. 418.

b. With title *KOSCIUSKO'S MONUMENT.* Margin trimmed close to title.

428. *KOSCIUSZKO'S GARDEN.* Vign. $3\frac{1}{2} \times 3\frac{1}{4}$. Wood engraving.

429. *Das GRAB COSCIUSCO'S | zu Westpoint am Hudson. | (VEREIN. STAATEN).* Left: *Aus d. Kunstst d. Bibl. Instit. in Hildbh.*; right: *Eigenthum d. Verleger.* Over right upper corner: *DCCIII.* Border of one dotted line, 4×6 ; to border line, $4 \frac{1}{6} \times 6\frac{1}{8}$. Line engraving.

From Meyer's "Universum," Amerikanische Ausgabe, 6 Bd, i. Lieferung, N. Y., 1854, oppo. p. 1.

430. *View of the Hudson Highlands from West Point.* Left: *Painted by Robert W. Weir*; right: *Engraved by James Smillie*; centre: *Steel Plate*; centre, below: *PAINTED AND ENGRAVED FOR THE NEW YORK MIRROR 1836.* *Entered according to the Act of Congress in the year 1836 by G. P. Morris in the Clerk's Office of the District Court of the Southern District of New York.* $6\frac{3}{8} \times 9$. Line engraving.

a. Trial proof, before letters.

b. As described. India paper.

Published in "New York Mirror," May 14, 1836.

431. *VIEW FROM WEST POINT. | (Hudson River.)* Left: *W. H. Bartlett*; right: *R. Wallis*; centre, below: *London, Published for the*

Prints, Hudson River, cont'd.

Proprietors by Geo. Virtue 26 Ivy Lane 1837. 4 11/16 x 7. Line engraving.

From Bartlett's "American Scenery," vol. 1, London, 1840, oppos. p. 6.

432. *VIEW FROM WEST POINT.* | (*Hudson River.*) Left: *W. H. Bartlett*; right: *A. L. Dick*; centre, below: *Engraved expressly for Graham's Magazine.* 4 1/2 x 6 1/8. Line engraving.

Same design as preceding.

433. *View from West Point | on the Hudson.* Left: *T. Creswick*; right: *J. T. Willmore*; centre, below: *London, Published for the Proprietor by Longman & Co. Paternoster Row October 1, 1841 | and Lea & Blanchard, Philadelphia.* 4 1/2 x 6 3/4. Line engraving.

a. As described.

b. Without names of artists. Trimmed close to second line of inscription.

434. *VIEW FROM WEST POINT ON THE HUDSON.* 4 x 5 1/8. Lithograph printed in colors. [185-?]]

Same design as preceding.

435.* *HUDSON RIVER. | NEAR WEST POINT.* Right: *J. H. BUFFORD & SONS LITH. BOSTON, MASS.* 5 15/16 x 9 13/16. Lithograph, one tint. About 1855.

A three-decked steamboat is shown.

436.* *View on the Hudson, near West Point.* Left: *Printed by Kimmel & Voigt, N. Y.* Centre, below title: *Engraved expressly for Demorest's Magazine.* 6 1/2 x 9 1/2. Line engraving.

437. "View from West Point" by *J. F. Kensett*. 1863. Canvas, 20 x 34.

Oil-painting in Stuart Gallery, New York Public Library.

438. "View of the Highlands from West Point" by *J. F. Weir*. 1862. Canvas, 19 x 33.

Oil-painting in the Stuart Gallery, New York Public Library.

439. "A Window, House on Hudson River," by *W. Whittredge*. 1863. Canvas, 27 x 19.

Oil-painting in the Stuart Gallery, New York Public Library.

440. *West Point and the Highlands.* Left: *Painted by Henry Fenn*; centre: *Entered according to act of Congress A. D. 1860 by D. Appleton & Co. in the Clerk's Office of the District Court of the Southern District of New York*; right: *Engraved by S. V. Hunt.* In lower left corner: *H. Fenn, 1868*; centre, below: *New York, D. Appleton & Co.* 5 1/8 x 7 1/4. Line engraving.

— Same. EM. 11962.

From "Picturesque America," vol. 2, N. Y., 1872, oppos. p. 9.

441. *VIEW FROM WEST POINT.* Hill covered with foliage in most of foreground; steamer beyond, centre, going up the river. 2 3/4 x 4 3/16. Line engraving.

442. *VIEW FROM WEST POINT—LOOKING NORTH.* Fortifications, with four cannon, in foreground. Over upper border, at left of centre: *Crow's Nest*; at right of centre: *Newburgh.* 3 x 4 7/8. Line engraving in color.

443. *VIEW OF THE NORTH RIVER.* Left: *Painted by J. Shaw*; right: *Engraved by J. Hill*; centre, below: *Published by M. Carey & Son Philadelphia.* 13 1/8 x 10 7/16. Aquatint, colored. [1820.] EM. 5452.

a. As described.

"Near West Point" added in pencil under the title.

b. With publication line changed to: *Published by Thomas T. Ash Philadelphia.* Aquatint, uncolored.

1835, according to D. McN. Stauffer.

Coldspring to Crow Nest.

444. *CHAPEL OF OUR LADY OF COLD-SPRING.* Left: *W. H. Bartlett*; right: *R. Brandard*; left, below: *CHAPELLE DE NOTRE-DAME DES EAUX FROIDES*; right, below: *KAPELLE UNSERERER [sic] FRAUEN ZU COLDSPRING*; centre, below: *London, Published for the Proprietors by Geo. Virtue, 26 Ivy Lane 1839.* 4 11/16 x 7 3/16. Line engraving.

From W. H. Bartlett's "American Scenery," vol. 2, London, 1840, oppos. p. 100.

445. *View near Cold-spring.* Left: *W. H. Bartlett, del.*; right: *J. C. Buttre, Sc.*; centre, below: *Engraved for the Columbian Magazine.* 4 1/8 x 7 1/8. Line engraving.

Same design as preceding; cross on chapel is omitted, and boat with two men added near sailboat at right. The Library also has a woodcut of the "Church of our Lady of Cold Spring," by J. A. Adams after Weir.

445 1/2. *CHAPEL OF OUR LADY | OF COLD SPRING.* Left: *Drawn after nature*; right: *for the Proprietor, Hermann J. Meyer*; centre, below title: *Published for HERRMANN J. MEYER, 164 William Street, NEW YORK*; right, below: *Copyright secured according to ACT OF CONGRESS.* Border of one dotted line. 3 15/16 x 6 1/8; to border, 4 1/16 x 6 5/16.

In "The United States illustrated.... edited by Charles A. Dana," East, vol. 1, N. Y. [185?], oppos. p. 67.

Many artists have found picturesque material along the banks of the Hudson. S. Isham, in his "History of American painting" (N. Y., 1905), p. 235, speaking of the "Hudson River School" of American painters, says: "They gloried in the boundless views of the Hudson Valley seen from the Catskills." One recalls also more recent work by Rix and Dabo, or R. Swain Gifford's etching "A Hudson River Tow" (1879).

446. *UNDERCLIFF NEAR COLD-SPRING.* | (*The Seat of General George P. Morris.*) Left: *W. H. Bartlett*; right: *J. T. Willmore*; centre, below: *LE ROC; DAS UNTERE GESTADE*; | *London, Published for the Proprietors by Geo. Virtue 26 Ivy Lane 1839.* 4 7/8 x 7 1/16. Line engraving.

In Bartlett's "American Scenery," vol. 2, London, 1840, oppos. p. 18.

447. *CROW-NEST FROM BULL HILL.* | (*Hudson River.*) Left: *W. H. Bartlett*; right: *G. K. Richardson.* 4 x 7. Line engraving.

From Bartlett's "American Scenery," vol. 1, London, 1840, oppos. p. 24.

448. *CROW-NEST FROM BULL HILL.* | (*Hudson River.*) Left: *W. H. Bartlett*; right: *A. L. Dick*; centre, below: *ENGRAVED FOR THE LADIES NATIONAL MAGAZINE.*

Same design as preceding.

its, *Hudson River, cont'd.*

HUDSON HIGHLANDS. | (From Bull Mill.) Left: *W. H. Bartlett*; right: *E. Benjamin*; centre, below: *London. Published for the Proprietors by Geo. Virtue 26 Ivy Lane. 13/16 x 7 1/16.* Line engraving.

Bartlett's "American Scenery," vol. 1, London, 1840, s. p. 121.

- Same. EM. 8100.

Breakneck Mountain, from Little Stony Point. $5\frac{1}{4} \times 5 \frac{3}{16}$. Wood engraving by *ARLEY* after *J. D. W[oodward]*.
om "The Art Journal," 1875, p. 203.

Highlands from Cornwall. $3\frac{1}{4} \times 7$. Wood engraving by [John] *KARST* after *J. D. W[oodward]*.
om "The Art Journal," N. Y., 1875, p. 204.

CRO' NEST, FROM ABOVE WEST POINT, ON THE HUDSON RIVER. Left: obt. *W. Weir*; right: *Jas. Smillie*. Vignette. $\frac{1}{8} \times 3\frac{3}{8}$. Line engraving.

Engraved title page of *J. R. Drake's "The culprit New York, 1835, 2. ed.*

Newburgh and Fishkill.

NEWBURGH. | *No. 14 of the Hudson River Port Folio.* Left: *Painted by W. G. Wall*; right: *Engraved by J. Hill*; centre, below: *Published by Henry I. Megarey, New York.* Border of two lines, $13 \frac{15}{16} \times 21 \frac{1}{16}$; to order, $14 \frac{3}{16} \times 21\frac{3}{8}$. Aquatint [1824-?]]

VIEW OF NEWBURGH. Left: *Drawn by W. G. Wall*; right: *Engraved by T. S. Woodcock*; centre, below: *Boston, Published by S. Walker.* Border of one line top and right, two lines left and bottom. $5\frac{1}{4} \times 7\frac{3}{8}$; to order, $5 \frac{7}{16} \times 7\frac{1}{2}$. Line engraving.

a. As described.

om *J. H. Hinton's "History and topography of the ed States,"* vol. 2, Boston, 1834, p. 386.

- Same. EM. 12570.

b. Plate evidently much burnished and re-engraved in parts.

c. With *Vol. II, page 386* below title to ght.

VIEW OF NEWBURGH. Left: *Drawn by W. G. Wall*; right: *Engraved and Printed by Fenner Sears & Co.*; centre, below: *London, Published Nov 1 1830 by I. T. Hinton & Mapkin & Marshall.* Border of one line at p and right, two lines at left and bottom. $15\frac{1}{16} \times 6 \frac{1}{16}$; to border, $4\frac{1}{8} \times 6\frac{1}{4}$. Line graving.

ne design as no. 454.

a. As described. India paper.

b. With added work in clouds at left, on ng roof in centre, etc. Ornamental border lded, with vignettes over centre top, at left low, **COLUMBUS RELATING HIS DISCOVERIES TO FERDINAND & ISABELLA** d at right below, **THE HUGUENOTS FINDING IN AMERICA.** Inscriptions re-aced by **VIEW OF NEWBURGH.** Centre, low: *J. & F. TALLIS. LONDON; EDINBURGH & DUBLIN.*

om "History of the United States . . . edited by *J. H. n,*" part 7, oppos. p. 289.

456. **A VIEW ON THE HUDSON RIVER.**

Wood engraving by *ALLANSON, N. Y.* $4\frac{1}{8} \times 5\frac{3}{4}$.

Printed text below. Left column, lines 11-18: "A section of the river here presented is a few miles below Newburgh, which is to be seen in the distance." The date of this engraving, 1886, fixed by reference to Halley's comet in right column, lines 21-25.

457. **ENTRANCE TO THE HUDSON HIGHLANDS, NEAR NEWBURGH.** Left: *W. H. Bartlett*; right: *R. Wallis*; centre, below: *NEW YORK: VIRTUE, EMMINS & CO.* Line engraving.

Vignette on engraved title-page of "American Scenery, by *N. P. Willis*, illustrated . . . by *W. H. Bartlett*," vol. 2, London, 1840.

— Same. EM. 8439.

458. *South View of Newburg.* Border of one line. $2\frac{1}{8} \times 3 \frac{3}{16}$; to border, $2 \frac{3}{16} \times 4$. Wood engraving.

In *J. W. Barber's "Historical Collections of the State of New York, N. Y."* improved edition, 1852, p. 268.

459. **EASTERN VIEW OF NEWBURGH, N. Y., FROM HUDSON RIVER.** Below, short description, beginning: "Newburgh is beautifully situated." Border of one line. $3 \times 5\frac{3}{4}$; to border, $3 \frac{1}{16} \times 5 \frac{13}{16}$. Wood engraving.

From *J. W. Barber's "Historical Collections of the State of New York,"* improved edition, N. Y., 1852, oppos. p. 264.

460. *New Burgh from Fishkill Landing.* Drawn in 1853 by *F. Cooper*. [Pencil note on back of drawing.] Signed "*F. C.*" $3\frac{1}{8} \times 5\frac{1}{4}$. Pencil sketch.

461. *Distant View of Newburg.* $3\frac{1}{8} \times 6\frac{7}{8}$. Wood engraving by *KARST* after *J. D. W[oodward]*.

From "The Art Journal," 1875, p. 204.

462. *Distant View of the Highlands from below Newburg.* $5\frac{1}{4} \times 5 \frac{3}{16}$. Arched top. Wood engraving after *J. D. W[oodward]*.

From "The Art Journal," N. Y., 1875, p. 205.

463. **VIEW FROM RUGGLE'S HOUSE, NEWBURGH.** | (*Hudson River.*) Left: *W. H. Bartlett*; right: *R. Brandard*; centre, below: *London, Published for the Proprietors by Geo. Virtue 26 Ivy Lane, 1838.* $5 \times 7\frac{3}{8}$. Line engraving.

From *W. H. Bartlett's "American Scenery,"* vol. 1, London, 1840, oppos. p. 51.

464. **VIEW FROM RUGGLE'S HOUSE, NEWBURGH.** Left: *W. H. Bartlett*; right: *J. N. Gimbrede.* $5 \times 7\frac{1}{4}$. Line engraving.

Same design as preceding. Trimmed close to title.

465. **VIEW of the HUDSON RIVER. | NEAR NEWBURGH.** At right, portico in foreground with two women and a man; at left, in foreground, trees. Centre, below: *Published for HERMANN J. MEYER, 8 North William Street NEW YORK.* Border of one line. $4 \frac{1}{16} \times 6 \frac{1}{16}$; to border, $4 \frac{3}{16} \times 6 \frac{3}{16}$. Line engraving.

466. *Washington's Head-quarters, Newburgh, N. Y.* Left: *Robt. W. Weir pinxt.*; centre: *Steel Plate*; right: *James Smillie Sculpt.*; cen-

Prints, Hudson River, cont'd.

tre, below: **PAINTED & ENGRAVED FOR THE NEW YORK MIRROR 1834.** Entered according to the Act of Congress in the year 1834 by George P. Morris in the Clerk's Office of the District Court of the Southern District of New York. 6 x 9. Line engraving.

467. *Washington's Head Quarters near Newburgh.* | From an original Sketch on the Spot by J. W. Hill. $3\frac{1}{8} \times 4\frac{1}{8}$. Line engraving. Vignette on engraved title-page of W. H. Bartlett's "History of the U. S.," vol. 1, N. Y., 1858.

468. **WASHINGTON'S HEAD QUARTERS NEAR NEWBURGH.** Centre below: *New York. Virtue, Emmins & Co.* | Entered according to act of Congress in the year 1857 by Virtue, Emmins & Co. in the Clerk's Office of the District Court of the Southern District of N. Y. $4\frac{3}{4} \times 7\frac{1}{8}$. Line engraving.

469. **HEAD QUARTERS AT NEWBURGH.** Centre: *Drawn & Engraved by James Smillie;* below title: **FOR IRVING'S LIFE OF WASHINGTON;** right: *Printed by W. Pate.* Upper corners rounded; top rises slightly on both sides to centre. $4\frac{1}{8} \times 7\frac{1}{4}$. Line engraving. India paper.

From Washington Irving's "Life of George Washington," vol. 4, New York, 1861, oppo. p. 400. The woodcut, signed *Mumford*, oppo. p. 48 of J. F. Watson's "Annals... of New York" (Phila., 1846), also gives a view of the river.

470. **VIEW NEAR FISHKILL.** | No. 17 of the *Hudson River Port Folio.* Left: *Painted by W. G. Wall;* right: *Engraved by J. Hill;* centre, below: *Published by Henry I. Megarey New York, and transferred to G & C H. Carvill, New York.* Border of two lines. $14 \times 21\frac{1}{8}$; to border, $14 \frac{7}{16} \times 21\frac{1}{2}$. Aquatint. [1824?]

471. **VIEW FROM FISHKILL LOOKING TO WEST POINT.** Left: *Painted by W. G. Wall;* right: *Engraved by J. Hill.* $14\frac{1}{8} \times 20\frac{3}{8}$. Aquatint. EM. 4278.

Trimmed close to title. No. 1 of the "Hudson River Portfolio."

472. **A VIEW ON HUDSON RIVER.** Left: *ALANSON Sc. N. Y.* Border of one line. $4\frac{1}{8} \times 5\frac{1}{8}$; to border line, $4 \frac{3}{16} \times 5 \frac{15}{16}$. Wood engraving. [184-?] Printed text on page below title; at bottom: *Vol. II—No. 5.*

One passage reads: "When one... is wafted along at the rate of twelve miles an hour in the wonderful steam-boat without sails." The steam-boat is shown in the print.

Poughkeepsie to Cruger's Island.

473. *A View in Hudson's River of Pakepsy & the Catts-Kill Mountains | From Sopos Island in Hudson's River [same in French].* Right: C. 3.; centre: *Sketch'd on the SPOT by his Excellency Governor Pownal, Painted & Engraved by Paul Sandby;* centre, below: *London, Printed for John Bowles at No. 13 in Cornhill. Robert Sayer at No. 53 in Fleet Street. Thos. Jeffreys the Corner of St. Martin's Lane in the Strand. Carington Bowles at No. 69 in St. Pauls Church Yard and Henry*

Parker at No. 82 in Cornhill. 12 13/16 x 20 3/16. Line engraving. [About 1759.]

a. As described.

— Same. EM. 4822 & 10781.

b. Without C 3, and with publication line changed to *London, published according to Act of Parliament, May 20, 1761, by Thos. Jefferys, the Corner of St. Martin's Lane.*

474. **VIEW ON THE HUDSON FROM POUGHKEEPSIE.** | *Hudson Highlands in the distance.* $3 \times 4 \frac{15}{16}$. Line engraving in color.

475. **POUGHKEEPSIE, N. Y. ON THE HUDSON. THE CITY OF SCHOOLS:** title above engraving. Centre: *Hatch & Co. Trinity Building, 111 Broadway N. Y.;* below: **PUBLISHED BY EASTMAN NATIONAL BUSINESS COLLEGE.** $3\frac{3}{4} \times 7\frac{1}{2}$. Line engraving.

At head of printed prospectus.

476. **POUGHKEEPSIE, FROM LEWISBURG.** In foreground in centre, a house; at right a sailing vessel. $4\frac{1}{8} \times 4$. Wood engraving. EM. 13301.

477. **WESTERN VIEW OF POUGHKEEPSIE, N. Y.** *The above shows the appearance of Poughkeepsie as seen from the elevated bank on the west side of the Hudson, a short distance below New | Paltz landing. The Hotel at the Steamboat landing is seen on the extreme right.* Left: **E. BARTLETT.** Border line. $3\frac{1}{4} \times 6\frac{3}{8}$; to border, $3 \frac{5}{16} \times 6 \frac{7}{16}$. Wood engraving.

From J. W. Barber's "Historical Collections of the State of New York," Improved Edition, N. Y., 1862, p. 84.

478. **Call Rock, Poughkeepsie.** Arched top. $4 \frac{15}{16} \times 3$. Wood engraving after J. D. W[oodward].

From "The Art Journal," N. Y., 1876, p. 306.

479. **Poughkeepsie Locomotive Engine Factory.** In lower right corner: **LOSSING D.** $4 \frac{1}{16} \times 6 \frac{15}{16}$. Wood engraving. About 1855.

479½. **VIEW FROM HYDE PARK.** | (*Hudson River.*) Left: *W. H. Bartlett;* right: *G. K. Richardson;* centre, below: *London, Published for the Proprietors by Geo. Virtue, 26 Ivy Lane, 1837.* $4\frac{1}{8} \times 7$. Line engraving.

From W. H. Bartlett's "American Scenery," vol. 1, London, 1840, oppo. p. 47.

480. **VIEW FROM HYDE PARK.** | (*Hudson River.*) Left: *W. H. Bartlett;* right: *M. Orborne.* $4\frac{1}{8} \times 6\frac{7}{8}$. Line engraving.

Same design as preceding. Trimmed close to words "Hudson River."

481. **VIEW FROM HYDE PARK.** | (*Hudson River.*) Left: *W. H. Bartlett;* right: *A. L. Dick;* centre, below: *Engraved for the Ladies Wreath.* $4 \frac{7}{16} \times 6\frac{7}{8}$.

In "Ladies Wreath," July, 1850. Same design as preceding.

482. **Hudson River.** | (*above Hyde Park*). Left: *W. H. Bartlett;* right: *Alfred Jones;* centre, below: *Engraved Expressly for the Evergreen.* $4\frac{1}{8} \times 6 \frac{1}{16}$. Line engraving.

Same design as preceding, curtailed a little at the right.

Prints, Hudson River, cont'd.

483. **VIEW FROM HYDE PARK.** | (HUDSON RIVER). Large tree in foreground; beyond, at left, steamer going down the river. 2 13/16 x 4 7/8. Line engraving.

Centre portion of same view as preceding, with steamer added.

484. **VIEW FROM HYDE PARK** | (HUDSON RIVER) | **NEW YORK.** Left: **DRAWN AFTER NATURE**; right: *For the Proprietor, HERMANN J. MEYER*; left, below: *Published for HERMANN J. MEYER, 164 William Street, NEW YORK*; right, below: *Copyright secured according to Act of CONGRESS.* Border of one dotted line. 3 15/16 x 6 1/8; to border, 4 1/16 x 6 5/16. Line engraving.

In the "United States Illustrated," vol. 1, PART 3, N. Y., oppo. p. 51.

485. "On the Rondout Creek. The Hudson River in the distance. June 1838." In lower left corner: *Wilbur, June 1838, Smillie House on the Rondout Creek.* 9 1/16 x 13. Wash drawing.

486. **RONDOUT CREEK.** 2 1/2 x 3 3/8. Vignette. Wood engraving.

From B. J. Lossing's "Hudson from the Wilderness to the Sea," N. Y., 1866, p. 184.

487. **KINGSTON, NEW YORK.—KRUSEMAN VAN ELTEN.** 4 3/4 x 6 9/16. Wood engraving by C. Morand.

488. *Summer-House, Cruger's Island.* 3 1/2 x 5 1/4. Wood engraving by Richardson after J. D. W[oodward].

From "The Art Journal," N. Y., 1875, p. 206.

The Catskills to Coxsackie.

489. **SKETCH of the TOWN of KAATS-KILL, HUDSON'S RIVER.** Left: *B. T. sc.*; right: *A. P. Fecit.* 3 5/8 x 6 1/2. Line engraving by Benjamin Tanner.

In "The New-York Magazine," Sept., 1797, opposite p. 449.

490. **VIEW FROM THE MOUNTAIN HOUSE, CATSKILL.** [title also in French and German]. Left: *W. H. Bartlett*; right: *R. Brandard*; centre, below: *London, Published for the Proprietors by Geo. Virtue 26 Ivy Lane, 1839.* 4 11/16 x 6 13/16. Line engraving.

In W. H. Bartlett's "American Scenery," vol. 2, London, 1840, oppo. p. 102. The river is seen in the distance.

491. **Catskill Mountains and the Steam Boat—on the Hudson River.** Left: *Sketched by J. Glennie Esqr.*; right: *Hewitt Sc.* Border of two lines at left, top and right. 3 13/16 x 6 1/4; to border, 3 3/8 x 6 3/8. Line engraving.

*a. With sails on the steam-boat. Proof.

— Same.

In "The Port Folio, third series, conducted by Oliver Oldschool, Esq.," vol. 2, no. 5, Nov. 1813, oppo. p. 453.

b. With a border of two lines at left, top and right. Size to border 3 3/8 x 6 3/8. A different boat substituted, violently churning the water, flying the American flag and without

sails; but the reflection of the sails still remains on the water.

The boat is not mentioned in the text. See note to no. 626.

492. **Catskill Mountain House.** Left: *Drawn by G. Harvey*, right: *Engraved by J. Smillie.* 4 13/16 x 6 3/4. Line engraving.

In "Graham's Magazine," Phila., Dec. 1850, oppo. p. 361.

493. **THE KATSKILL MOUNTAINS (FROM HUDSON).** Right: *Lith. of Sarony & Major 117 Fulton St. N. Y.* 3 1/2 x 5 1/8. Lithograph. [About 1850.]

494. **VIEW NEAR HUDSON.** | *No. 12 of the Hudson River Port Folio.* Left: *Painted by W. G. Wall*; right: *Engraved by J. Hill*; centre, below: *Published by Henry I. Megarey New York and transferred to.* Border of two lines. 14 1/16 x 21 7/8; to border, 14 1/4 x 21 3/8. Aquatint. [1824?]

495. **Ville d'Hudson** [same in English, Latin & German] *No. 11 | Imp. Lith. de Bove, dirigée par Noël aîné & Ce.*; left: *Dessiné d'après nature par Milbert*; right: *Lithographié par L. Sabatier.* Above: *3e Livraison. AMÉRIQUE SEPTENTRIONALE—ÉTAT DE NEW-YORK.* Pl. 3. Border of two lines. 7 9/16 x 11 3/16; to border line, 7 7/8 x 11 1/2. Lithograph.

From "Itinéraire pittoresque du fleuve Hudson..." par J. Milbert, 1828-29.

496. *Vue du port de la ville d'Hudson et des montagnes Catskill* [same in English, Latin & German]. *No. 12 | Imp. Lith. de Bove dirigée par Noël aîné & Ce.*; left: *Lithographié par Bichebois fige. par V. Adam*; right: *Dessiné d'après nature par J. Milbert.* Above: *3e Livraison. AMÉRIQUE SEPTENTRIONALE—ÉTAT DE NEW-YORK.* Pl. 3. Border of two lines. 7 11/16 x 11 5/16. Lithograph, India paper. EM. 4277.

From "Itinéraire pittoresque du fleuve Hudson..." par J. Milbert, 1828-29.

497. **VIEW OF HUDSON CITY AND THE CATSKILL MOUNTAINS.** Left: *W. H. Bartlett*; right: *R. Brandard.* 4 13/16 x 7 1/4. Line engraving.

From W. H. Bartlett's "American Scenery," vol. 2, London, 1840, oppo. p. 67.

498. **VIEW OF HUDSON CITY AND THE CATSKILL MOUNTAINS.** Left: *W. H. Bartlett*; right: *A. L. Dick.* 4 7/8 x 7 1/16. Line engraving.

Same design as preceding.

499. **VIEW OF HUDSON-CITY AND THE CATSKILL MOUNTAINS.** Left: **DRAWN AFTER NATURE**; right: *For the Proprietor: HERMANN J. MEYER*; left, below: *Published for PAUL BERNHARD, 164 William Street, NEW YORK*; right, below: *Copyright secured according to ACT of CONGRESS.* Border of one line. 4 9/16 x 6 7/8; to border, 4 11/16 x 7. Line engraving.

Design adapted from Bartlett's (no. 497).

a. As described.

Prints, Hudson River, cont'd.

b. With **HERRMANN J. MEYER** instead of **PAUL BERNHARD**.

In the "United States Illustrated," edited by Charles A. Dana. Vol. 1, Part 2, N. Y. [185-?], oppo. p. 87.

500. **SOUTH EASTERN VIEW OF HUDSON CITY, N. Y., FROM ACADEMY, OR PROSPECT HILL.** | *The principal street in Hudson, one mile in length, is seen in the central part of the engraving. The village of Athens appears on the opposite | bank of the Hudson; the Catskill Mountains are seen in the extreme distance, on the left.* Border line. $3\frac{1}{4} \times 6\frac{3}{8}$; to border, $3 \frac{5}{16} \times 6\frac{1}{2}$. Wood engraving by **E. Bartlett**.

From J. W. Barber's "Historical Collections of the State of New York," improved edition, N. Y., 1832, oppo. p. 76.

501. **At HUDSON, N. Y.** Over right upper corner: 12. At right in foreground a small house; at left a railway train and railway bridge. About 1828? $5\frac{5}{8} \times 8\frac{3}{4}$. Lithograph.

502. **Hudson, from Four-mile Point.** 3×7 . Arched top. Wood engraving after **J. D. W[oodward]**.

503. **VIEW NEAR COXSACKIE. HUDSON RIVER.** Right: **Leney Sci.** Border of one line at left and top, two at right and bottom. $3 \frac{7}{16} \times 5 \frac{11}{16}$; to border $3 \frac{9}{16} \times 5 \frac{13}{16}$. Line engraving.

From "The Port Folio," 3d series, conducted by Oliver Oldschool, Esq., v. 1, no. 1, Jan. 1813, oppo. p. 1.

Albany.

504. **A VIEW of RENSSAELERVILLE MANUFACTORY** | *The property of Mr. JAMES CALDWELL of the City of | Albany, Merchant, with a distant Prospect of Hudsons River | and the Seat of Stephen Van Rensselaer Esquire.* Left: *In possession of Gavit & Co., Albany, N. Y.*; right: *Tiebout Sculp.* 1792. $6 \frac{7}{16} \times 11\frac{7}{8}$. Reproduction of line engraving. EM. 3547.

505.* **CITY OF ALBANY, in the STATE OF NEW YORK.** Centre, above title: *Drawn by G. Kane, June 4, 1819—Engraved by T. Dixon.*; centre, below: *Published by Henry Fisher, Caxton, Liverpool, Oct. 21, 1819.* Border of two lines. $5 \frac{12}{16} \times 8$; to border $5 \frac{15}{16} \times 8 \frac{3}{16}$.

A view of the city from the east shore. The steamboat is probably the "Chancellor Livingston."

506. **ENTRANCE OF THE CANAL INTO THE HUDSON AT ALBANY.** Left: *J. Eights del.* $2 \frac{15}{16} \times 5 \frac{13}{16}$. Line engraving.

On plan. "Geological profile extending from the Atlantic to Lake Erie," in W. L. Stone's "Narrative of the festivities observed in honor of the completion of the grand Erie Canal," N. Y., 1825.

— Same, cut from map. EM. 11421.

Reproduced in M. A. Hamm's "Famous families of New York," N. Y., [1902], vol. 1, p. 48.
The river itself is not shown.

507. **Ville d'Albany, Capitale de l'état de New York** [and same in English, Latin & German] No. 13. | *Imp. Lith. de Boue dirigée par Noël aîné & Cie.*; left: *Lithographié par Deroy*;

right: *Dessiné d'après nature par J. Milbert.* Above: *4e Livraison. AMÉRIQUE SEPTENTRIONALE—ÉTAT DE NEW-YORK Pl 1.* Border of two lines. $7\frac{3}{8} \times 11\frac{1}{4}$; to border line, $7 \frac{15}{16} \times 11\frac{3}{4}$. Lithograph. India paper. EM. 11468.

From "Itinéraire pittoresque du fleuve Hudson, par J. Milbert," 1822-29.

508. **A VIEW OF ALBANY, N. Y.** At the left, in foreground, a steamer going up the river; at the right, two sailing vessels. $5\frac{1}{4} \times 8\frac{5}{8}$. Wood engraving. [183-?]

509. **ALBANY, FROM VAN-UNSSELAENS ISLAND.** Left: *Drawn by G. Wall.*; right: *Engraved & Printed by Fenner Sears & Co.*; centre, below: *London, Published Jan. 1831 by I. T. Hinton & Simpkin & Marshall.* Over upper right corner: 15. One border line on left and top and two on right and bottom. $3 \frac{7}{16} \times 6$; to border, $3\frac{3}{4} \times 6 \frac{5}{16}$. Line engraving.

a. As described. India paper. EM. 10396.

b. With —**UNSSELAENS** changed to **RENSSELAER'S**.

From "History and topography of the United States," edited by J. H. Hinton, London, 1832, vol. 2, op. p. 499.

c. With added work as in reflection of cows. Ornamental border added, with vignettes below to left (**DUTCH TREATY WITH THE INDIANS**) and to right (**SURRENDER TO THE ENGLISH**). Former lettering replaced by **ALBANY, FROM VAN RENSSALAER'S ISLAND**. Centre, below: **J. & F. TALLIS, LONDON & NEW YORK**. Size with border $6\frac{1}{8} \times 7\frac{5}{8}$.

510. **ALBANY, FROM VAN-UNSSELAENS ISLAND.** Left: *G. Wall del.*; right: *J. Archer, Sc.* One border line at left and top and two at right and bottom. $4 \frac{11}{16} \times 7 \frac{11}{16}$; to border line, $4 \frac{15}{16} \times 8 \frac{1}{16}$. Same design as preceding, engraved on a larger scale.

a. As described.

From "History and topography of the U. S., edited by J. H. Hinton," new edition, vol. 2, Boston, 1834, oppo. p. 387.

b. With *Vol. II, page 384* below title to right.

c. With *Albany from Van-Unsselaen's Island* in script; no other lettering. Many added vertical lines in water, beneath trees and boat. EM. 4298.

510½. **VIEW of ALBANY.** Left: *Wall del.*; right: *Ch. Daumerlang sc.*; centre, above title: *Fr: Geissler direx.*; centre, below: *Philadelphia: N. A. Bibl. Inst.*; over upper right corner: **LIHI**. $3\frac{3}{8} \times 6$. Line engraving.

In "Our Globe. A Universal picturesque album. Edited by the North-American Bibliographic Institution in Philadelphia," vol. 1 [185-?].

511. **ALBANY.** Two men in foreground at right; beyond, steamer **FULTON** going up the river. Border of one line. $3 \frac{5}{16} \times 5\frac{1}{4}$; to border, $3 \frac{5}{12} \times 5\frac{3}{8}$. Line engraving.

— Same. EM. 12470.

Prints, Hudson River, cont'd.

512. **ALBANY.** Man in foreground at right; two boys in foreground centre. Left: *W. H. Bartlett*; right: *C. Cousen*. Line engraving. 4 17/24 x 7 1/16.

From *W. H. Bartlett's* "American Scenery," vol. 1, London, 1840, oppos. p. 22; also in *W. H. Bartlett's* "History of the United States of North America," vol. 1., N. Y., 1836, oppos. p. 122

513. **ALBANY.** Left: *W. H. Bartlett*; right: *A. L. Dick*. 4 11/16 x 7 1/24. Line engraving.

Same design as preceding.

514. **View of Albany.** Centre: *Eng'd by D. G. Thompson*. 4 13/16 x 7. Line engraving.

Same design as preceding, except that figures in foreground have been replaced by two men, rowing, in a boat.

515. **CITY OF ALBANY.** Left: *B. F. Smith, del.*; right: *Gavit & Duthie*; centre: *Entered according to Act of Congress, Nov. 23, 1847, by E. Van Scaack in the Clerk's Office of the Northern District of the State of New York*. 4 5/12 x 7 5/16. Line engraving.

516. **ALBANY.** Left: *Drawn by J. R. Smith*; right: *C. A. & Co. Sc. Lancaster*. Border of one line at left and top and two at right and bottom. 5 7/16 x 7 7/8; to border, 5 1/2 x 7 15/16. Line engraving.

517. **ALBANY** above. Centre, below: *New-York & Paris published by Goupil, Vibert & Co.* | 39 | **GENERAL VIEW** | *Entered according to act of Congress, in the year 1850, by Aug. Köllner in the Clerk's Office of the District Court for the Southern District of New York*. Border of two lines. 7 7/16 x 11 1/16; to border, 7 13/16 x 11 7/16. Lithograph.

518. **S. E. VIEW OF ALBANY, FROM GREEN BUSH FERRY.** | *The City and State Halls, each surmounted with a dome, are seen towering above the other buildings on the hill on which Albany is mostly built. The entrance of the Erie Canal is seen on the right; the South Greenbush Ferry Landing on the left.* Left: *J. W. Barber, del.*; right: *Sherman & Smith, sc.* N. Y. 3 3/8 x 6 7/8. Line engraving.

From *J. W. Barber's* "Historical Collections of the State of New York," improved edition, N. Y., 1852, oppos. p. 48.

519. **VIEW OF ALBANY, N. Y., FROM GREENBUSH.** At right in the foreground, figures of four men and a woman; to the left, a railway train. 5 1/4 x 9 3/8. Wood engraving. From "Gleason's Pictorial Drawing Room Companion."

520. **SNOW SCENE IN ALBANY, NEW YORK.** 5 13/16 x 9 3/8. Wood engraving. Published about 1856.

View of the city from the east shore. The river is frozen over, and railway passengers, with their baggage, are being carried across the ice in very large bob-sleds drawn by horses.

521. **VIEW OF ALBANY FROM BATH.** Left: *Drawn by J. Kirk*; right: *Eng'd. & Printed by J. E. Gavit*. Vign. 1 3/16 x 6. Line engraving. EM. 11320.

522. **ALBANY AS SEEN FROM THE HUDSON RIVER.** 5 1/16 x 18 3/8. Half-tone from photograph. 1899?

In "Albany, New York," a pamphlet issued in 190-? by the Albany Chamber of Commerce.

Troy to the Source.

523. **VIEW FROM MOUNT IDA.** | (*Near Troy*). [title also in French and German]. Left: *W. H. Bartlett*; right: *R. Wallis*; centre, below: *London, Published for the Proprietors by Geo. Virtue, 26 Ivy Lane, 1839*. 4 7/8 x 7 3/16. Line engraving.

In *W. H. Bartlett's* "American Scenery," vol. 2, London, 1840, oppos. p. 85.

524. **VIEW FROM MOUNT IDA** | (*Near Troy*). Left: *W. H. Bartlett*; right: *Dick sc.* 4 7/8 x 7 1/4. Line engraving.

Same design as preceding. From "Ladies' Companion," N. Y., Sept., 1840.

525. **MOUNT IDA.** | *On the Hudson.* 4 11/16 x 7 7/8. Line engraving.

Same design as preceding.

526. *Chûte dans le Mont Ida, audessus de la ville de Troye* [and same in English, Latin & German] No. 15. | *Imp. Lith. de Boue dirigée par Noël aîné & Ce.*; left: *Dessiné d'après nature par L. Sabatier*; right: *Lithographié par Bichebois*. Above: *4e Livraison. AMÉRIQUE SEPTENTRIONALE—ÉTAT DE NEW YORK*. Pl. 3. Border of two lines. 7 11/16 x 11 3/16; to border, 8 1/16 x 11 3/8. Lithograph. India paper.

In "Itinéraire pittoresque du fleuve Hudson, ... par J. Milbert," 1828 29.

527. **TROY.** | *Taken from the West bank of the Hudson, in front of the United States Arsenal.* Left: *W. J. Bennett*; right: *Eng'd. by W. J. Bennett*; centre: *New York, Published by John Levison 341 Broadway*. 15 3/4 x 25 1/2. Aquatint. [183-?]]

528. [View on the Upper Hudson, 1903.] 5 1/8 x 9 3/8. Photograph.

529. **View of the West Bank of the Hudson's River 3 Miles above Still Water, upon which the Army under the command of Lt. General Burgoyne, took post on the 20th. Sepr. 1777.** | (*Shewing General Frazer's Funeral.*) Right: *Barlow Sculpt.*; centre, below: *Published as the Act directs, Jany. 1, 1789, by William Lane, Leadenhall Street, London*. 7 3/4 x 15 7/8. Line engraving. EM. 8121 & 10999.

From Thomas Anbury's "Travels through the interior parts of America," London, 1789, oppos. p. 482.

530. **Lady Harriet Ackland.** Left: *Drawn & Engraved by Robt. Pollard*; right: *Aquatinta by F. Jukes*. London, Pubd. Novr. 15; 1784 by R. Pollard No. 7, *Brayne's Row Spa Fields*; centre, below, four lines of description, beginning *This amiable Lady* and ending *Virtue so justly merited*; right, below: *See G. Burgoyne's Narrative*. 15 1/8 x 20 11/16. Engraving in line and aquatint.

"Before [Lady Harriet] left New York a painting representing her standing in a boat, with a white handkerchief in her hand as a flag of truce, was exhibited at the royal academy, London."—Appleton's Cyclopaedia of American Biography, vol. 1, N. Y., 1888, p. 9.

Prints, Hudson River, cont'd.

531. *LADY ACKLAND'S VISIT TO THE CAMP OF GENL. GATES.* | *From the original picture by Alonzo Chappel in the possession of the Publishers.* | Johnson, Fry & Co. Publishers, New York. | Entered according to act of Congress A. D. 1857, by Johnson, Fry & Co. in ... New York. $5\frac{3}{8} \times 7\frac{3}{16}$. Line engraving.

532. *A VIEW ON THE HUDSON AT SCHUYLERVILLE.* Half-tone from photograph by Silas A. Lottridge.

From "The Mail and Express Illustrated Magazine," Aug. 8, 1908.

533. *VIEW NEAR FORT MILLER.* | No. 10 of the *Hudson River Port Folio*. Left: *PAINTED BY W. G. WALL*; right: *ENGRAVED BY J. HILL*; centre, below: *Published by Henry I. Megarey, New York.* Border of two lines. $14 \times 20\frac{7}{8}$; to border, $14\frac{1}{8} \times 21\frac{3}{8}$. Aquatint. [1824?]]

— Same. EM. 4395 & 8066.

534. *Chûtes générales de l'Hudson à Sandy Hill* [and same in English, Latin & German] No. 19. | *Imp. Lith. de Bove dirigée par Noël aîné et Compe.*; left: *Lithographié par A. Arnout*; right: *Dessiné d'après nature par J. Milbert.* Above: *5me Livraison. AMÉRIQUE SEPTENTRIONALE—ÉTAT DE NEW YORK.* Pl. 3. Border of two lines. $7\frac{3}{8} \times 11\frac{5}{16}$; to border, $8\frac{1}{16} \times 11\frac{13}{16}$. Lithograph. India paper. EM. 4400 & 8067.

From "Itinéraire pittoresque du fleuve Hudson, par J. Milbert," 1828-29.

535. *Cours de l'Hudson et Moulins, près Sandy Hill* [and same in English, Latin & German] No. 20. | *Imp. Lith. de Bove dirigée par Noël aîné & Ce.*; left: *Lithographié par Sabatier*; right: *Dessiné d'après nature par J. Milbert.* Above: *5e Livraison. AMÉRIQUE SEPTENTRIONALE—ÉTAT DE NEW YORK.* Pl. 4. Border of two lines. $7\frac{13}{16} \times 11\frac{5}{16}$; to border, $8\frac{1}{4} \times 11\frac{3}{4}$. Lithograph. India paper. EM. 4299.

From "Itinéraire pittoresque du fleuve Hudson, par J. Milbert," 1828-29.

536. *GLENNS FALLS* | No. 6 of the *Hudson River Port Folio*. Left: *Painted by W. G. Wall*; right: *Engraved by I. Hill*; centre, below: *Published by Henry I. Megary, New York and transferred to G & C. & H. Carvill, New York.* Border of two lines. $14 \times 21\frac{1}{16}$; to border, $14\frac{3}{16} \times 21\frac{1}{4}$. Aquatint. [1824?]]

537. *Chûtes de l'Hudson au village de Glens* [and same in English, Latin & German] No. 22. | *Imp. Lith. de Bove dirigée par Noël aîné & Ce.*; left: *Lithographié par Tirpenne*; right: *Dessiné d'après nature par J. Milbert.* Above: *6e Livraison. AMÉRIQUE SEPTENTRIONALE—ÉTAT DE NEW YORK.* Pl. 2. Border of two lines. $7\frac{1}{2} \times 11\frac{5}{16}$; to border, $7\frac{15}{16} \times 11\frac{13}{16}$. Lithograph. India paper. EM. 4402.

From "Itinéraire pittoresque du fleuve Hudson," by J. Milbert, 1828-29.

538. *Moulins à Scies au village de Glens* [and the same in English, Latin & German] No. 23 | *Imp. Lith. de Bove dirigée par Noël aîné & Ce.*; left: *Lithographié par Villeneuve*; right: *Dessiné d'après nature par J. Milbert.* Above: *6e Livraison. AMÉRIQUE SEPTENTRIONALE—ÉTAT DE NEW YORK.* Pl. 3. Border of two lines. $7\frac{3}{8} \times 11\frac{5}{16}$; to border, $8\frac{1}{8} \times 11\frac{13}{16}$. Lithograph. India paper. EM. 4401.

From "Itinéraire pittoresque du fleuve Hudson... par J. Milbert," 1828-29.

539. *BRIDGE AT GLENS FALL.* | (on the *Hudson*). Left: *W. H. Bartlett*; right: *P. W. Topham*; left, below: *PONT À GLENS FALL*; right, below: *DIE BRÜCKE ZU GLENS FALL*; centre, below: *LONDON, Published for the Proprietors by Geo. Virtue, 26 Ivy Lane, 1839.* $4\frac{3}{4} \times 7\frac{5}{16}$. Line engraving.

From W. H. Bartlett's "American Scenery," vol. 2 London, 1840, oppos. p. 84.

540. *THE JUNCTION OF THE SACANDAGA AND HUDSON RIVERS.* | No. 2 of the *Hudson River Port Folio*. Left: *Painted by W. G. Wall*; right: *Engraved by I. R. Smith*; centre, below: *Published by H. I. Megarey & W. B. Gilley New York & John Mill Charleston S. C.* | Printed by Rollinson. Border of two lines. $14 \times 21\frac{1}{4}$; to border line, $14\frac{1}{8} \times 21\frac{3}{8}$. Aquatint. [1824?]]

541. *Débarcadere de Jessups* [and same in English, Latin & German]. No. 26 | *Imp. Lith. de Henry Gauguin*; left: *Lithographié par L. Sabatier*; right: *Dessiné d'après nature par J. Milbert.* Above: *7me Livraison. AMÉRIQUE SEPTENTRIONALE—ÉTAT DE NEW-YORK.* Pl. 2. Border of two lines. $7\frac{1}{4} \times 11\frac{1}{4}$; to border, $8\frac{1}{16} \times 11\frac{5}{8}$. Lithograph.

From "Itinéraire pittoresque du fleuve Hudson... par J. Milbert," 1828-29.

542. *Pont sur l'Hudson, près Lunerne* [and same in English, Latin & German] No. 25 | *Imp. Lith. de Henry Gauguin*; left: *Lithographié par Bichebois*; right: *Dessiné d'après nature par J. Milbert.* Above: *7me Livraison. AMÉRIQUE SEPTENTRIONALE—ÉTAT DE NEW-YORK.* Pl. 3. Border of two lines. $7\frac{3}{4} \times 11\frac{1}{4}$; to border, $8\frac{1}{8} \times 11\frac{5}{8}$. Lithograph.

From "Itinéraire pittoresque du fleuve Hudson, par J. Milbert," 1828-29.

543. *Moulins près de Luxerne, vers les Sources de l'Hudson* [and same in English, Latin & German]. "No. 25 1/2" in MS. | *Imp. Lith. de Bove dirigée par Noël aîné & Ce.*; left: *Lithographié par Bichebois*; right: *Dessiné d'après nature par J. Milbert.* Above: *AMÉRIQUE SEPTENTRIONALE—ÉTAT DE NEW-YORK.* Border of two lines. $7\frac{1}{4} \times 11\frac{5}{16}$; to border, $8\frac{1}{8} \times 11\frac{11}{16}$. Lithograph. [1828-9]

From "Itinéraire pittoresque du fleuve Hudson," by J. Milbert, 1828-29. In the book itself the oval space for the number is blank.

544. *HADLEY'S FALLS.* | No. 5 of the *Hudson River Port Folio*. Left: *Painted by W. G.*

its, Hudson River, cont'd.

7all; right: Engraved by I. R. Smith; centre, below: Published by H. I. Megarey & T. B. Gilley New York and John Mill Charleston S. C. Border of two lines. 13 13/16 x 1 1/16; to border, 13 15/16 x 2 1/8. Aquatint. [1824?]

Extrémité de la Chûte d'Adley's [same in English, Latin & German] No. 27. | Imp. Lith. : *Boue dirigée par Noël aîné et Ce.*; left: lithographié par L. Sabatier; right: Dessiné d'après nature par J. Milbert. Above: 7e Livraison. AMÉRIQUE SEPTENTRIONALE—ÉTAT DE NEW-YORK. Pl. 3. Border of two lines. 7 11/16 x 11 1/4; to border, x 11 1/8. Lithograph.

om "Itinéraire pittoresque du fleuve Hudson ... par Milbert," 1828-29.

Vue générale des chûtes de l'Hudson à dley's [and same in English, Latin & German] No. 29. | Imp. Lith. de Henry Gauguin; left: Lithographié par Jacottet figes. par Vr. dam; right: Dessiné d'après nature par J. Milbert. Above: 8me Livraison. AMÉRIQUE SEPTENTRIONALE—ÉTAT DE NEW-YORK. Pl. 1. Border of two lines. 7 1/2 x 1 5/16; to border, 7 7/8 x 11 11/16.

om "Itinéraire pittoresque du fleuve Hudson ... par Milbert," 1828-29.

RAPIDS ABOVE HADLEY'S FALLS. | No. 4 of the Hudson River Port Folio. Left: Painted by W. G. Wall; right: Engraved by Hill; centre, below: Published by Henry I. Megarey New York. Border of two lines. 3 15/16 x 20 15/16; to border, 14 1/8 x 21 3/16. Aquatint. [1824?]

Rapides de l'Hudson à Adley's [same in English, Latin & German] No. 28. | Imp. lith. de E. Ardit, Editeur, rue Vivienne No. 2; left: Lithographié par Bichebois, figs. par V. dam; right: Dessiné d'après nature par J. Milbert. Above: 7e Livraison. AMÉRIQUE SEPTENTRIONALE—ÉTAT DE NEW-YORK. Pl. 4. 7 5/8 x 11 1/8. Lithograph. EM. 394.

om "Itinéraire pittoresque du fleuve Hudson ... par Milbert," 1828-29.

THE HUDSON AT HADLEY. 3 3/8 x 4 3/4. Half-tone from photograph.

om "Harper's Magazine," Mar. 1905, p. 551.

Sun Set on the Hudson. Left: *Weir Pinxt.*; right: *A. A. Rolph Sc.* 3 1/4 x 4 7/8. Line engraving.

The Hudson, Twenty Miles from its Source. x 6 1/8. Wood engraving by HARLEY after [arry] Flen].

om "Picturesque America."

Seven Views of the Hudson near and at its source. "Lake Tear-of-the-Cloud, where the Hudson sets out on its journey," "Near its head," "Indian Pass," etc. Half-tones from photographs by S. R. Stoddard.

om "The Churchman," June 1. 1901. or pictures of the Hudson near its source, see also the chapters of B. J. Lossing's "The Hudson, from the wilderness to the Sea." N. Y. [copyright 1866], and Harper's Magazine," Mar. 1905, pp. 545, 547.

553. *Opalescent Falls.* Right: *W. J. Palmer.* Wood engraving. 9 7/8 x 3 3/8.

Benson J. Lossing, in "The Hudson from the Wilderness to the Sea" (pp. 32, 33), says of Opalescent River: "It is one of the main sources of the Hudson, and falls into Sandford Lake, a few miles below Adirondack village ... The Indians called this cascade *She-gui-en-daukwe*, or the Hanging Spear. A short distance above is a wild rapid, which they called *Kas-kong-shadi*, or Broken Water."

553 1/2. *Source of the Hudson in the Indian Pass.*

Left: Benson J. Lossing Del.; centre, below title: *NEW YORK, VIRTUE, YORSTON & CO.* Vign. 6 7/8 x 4 7/8. Line engraving.

In B. J. Lossing's "The Hudson," N. Y. [1866], frontisp.

554. *Source of the Hudson.* [Two men in the foreground; one beyond, holding cup under water falling from top of a rock into a pool below.] 6 7/8 x 6 7/8. Wood engraving. From "Picturesque America."

ROBERT FULTON AND EARLY STEAM NAVIGATION.

Portraits of Fulton, etc.

555. *ROBERT FULTON ESQR.* Half length, directed and facing left, looking front; seated, left arm over back of chair, right hand clasped over left in lap, curtain behind figure, ship being blown up in distance at left. Left: *PAINTED BY B. WEST P.R.A.*; right: *ENGRAVED BY W. S. LENEY A.C.S.A.*; centre, above title: *PUBLISHED BY JOSEPH DELAPLAINE CHESNUT STREET PHILADELPHIA 1815.* Border of three lines. 4 15/16 x 3 15/16; to border, 5 1/16 x 4 1/16.

a. As described.

From "Delaplaine's Repository of the lives and portraits of distinguished American characters," Phila., 1815, oppo. p. 201.

b. Without publication line.

In "Museum of Foreign Literature and Science," Phila., April, 1828, vol. 8, oppo. p. 289.

This West portrait is the one most frequently reproduced, in full or in part, sometimes with modifications.

556. *ROBERT FULTON ESQR.* Left: *Miss Emmett Pinxt.*; right: *W. S. Leney Sculpsit.*; centre, below title: *Kirk & Mercein Publishers N. York.* Vign. 5 3/8 x 4 5/8. Stipple engraving.

The West portrait, the ship being replaced by a vessel apparently delivering a broadside, probably the "Demologos."

From Cadwallader D. Colden's "Life of Robert Fulton," N. Y., 1817, frontispiece.

557.* Portrait of Robert Fulton, bust, directed and facing left, looking front, arm over back of chair. At bottom: *A. J. M.* 2 7/8 x 2 11/16. Wood engraving.

From "The New York Mirror," vol. 10, no. 3, N. Y., July 21, 1832. Based on the West portrait.

— Same, *A. J. M.* erased.

A note, in ink: "N. Y. Mechanic & Farmer. Aug. 1846."

558. *ROBERT FULTON.* | *R. Fulton* [facsimile of signature]. Left: *Painted by B. West P.R.A.*; right: *Engd. by G. Parker.* 4 5/16 x 3 3/8. Stipple and line engraving.

a. Proof before letters.

b. As described.

The West portrait, slightly reduced at top, left and

Prints, Robert Fulton, cont'd.

bottom, so that left half of ship blowing up, as well as seat of chair and Fulton's knees, are not shown.
From "The National Portrait Gallery of distinguished Americans; conducted by J. Herring and J. B. Longacre," vol. 3, N. Y., 1838.

— Same.

In "National portrait gallery of distinguished Americans," vol. 3, Phila., 1838.

559. **ROBERT FULTON.** Bust, based on the West portrait. No background. $3 \times 2\frac{1}{2}$. Wood engraving. About 1840?

560. **ROBERT FULTON.** Bust, from the West portrait. Left: *S. W.*; right: *J. W. ORR N. Y.* Vign. 3×4 . Wood engraving after Samuel Wallin. At head of printed biographical sketch beginning: "If there be any mind." Picture and text enclosed in a border of two lines.

From "The illustrated American biography . . . By A. D. Jones," vol. 1, N. Y., 1838, p. 227.

— Same, without the border.

From "The American portrait gallery . . . by A. D. Jones," N. Y., 1838, p. 121.

The front page of "Gleason's Pictorial," for Nov. 18, 1854, was devoted to Fulton, "In honor of the birthday of Robert Fulton, November 1765." Beside text, it offered a bust portrait of Fulton, a picture of the Clermont, and two pictures of later steamboats (side-wheelers), engraved on wood by Kilburn.

561. Portrait of Robert Fulton, half length, seated, directed and facing right, looking front, in centre panel of sheet, surrounded by smaller historical panels and allegorical figures. Below portrait: *FROM A PAINTING BY WEST.* Below, at right: *L. N. ROSENTHAL'S LITH. PHILA.* Size of portrait panel: $2 \frac{10}{16} \times 3 \frac{7}{16}$. Lithograph in colors. In Reigart's "Life of Fulton," Phila., 1850. The West portrait, reversed, with the "Demologos" beyond.

562. **ROBERT FULTON.** Bust (from the West portrait). Centre, above title: *Engd. by W. G. Jackman*; below title: *D. Appleton & Co.* Border of two lines. $6 \times 4\frac{1}{4}$; to border, $6\frac{1}{2} \times 4\frac{3}{8}$. Line and stipple engraving.

— Same. EM. 13181.

563. **R. Fulton** [fac-sim. of signature]. Right: *O. Pelton sc.* Bust [from the West portrait]. Vign. $2\frac{1}{2} \times 2\frac{1}{2}$. Line engraving.

564. **ROBERT FULTON ESQR.** Three-quarter length. Vign. $6\frac{3}{8} \times 5$. Line engraving. The West portrait, but showing a portion of the legs below the knees, and with the Clermont on the left instead of the vessel being blown up.

565. **ROBT. FULTON.** Bust [from the West portrait]. Oval, border of one line. $1\frac{3}{8} \times 1\frac{1}{8}$; to border, $1\frac{1}{2} \times 1\frac{1}{4}$. Line engraving.

a. Proof before letters. India paper.

b. As described. Outside oval border, to left, the Clermont; to right, another steam boat. Cut from the upper left corner of a print.

566. **R. Fulton**—[fac-simile of signature]. At right: *J. Rogers.* Bust, long [from the West portrait], with a background of columns. In oval $4\frac{7}{8} \times 3\frac{3}{8}$; with ornamental border, in which, above, a nautilus, and below a river

steamboat with the title below: **STEAM NAVIGATION OF THE HUDSON RIVER.** $8 \times 5\frac{1}{2}$.

567. Bust, from the West portrait. *Richardson N. Y.* near right shoulder. Vign. $2\frac{3}{4} \times 2\frac{1}{2}$. Wood engraving. Proof. [186-?]]

In 1902 this appears again in the "Critic," vol. 41, p. 340.

568. **R. Fulton** [fac-simile of signature] | *From the original painting by Chappel in the possession of the publishers.* | *Johnson, Fry & Co. Publishers, New York.* | *Entered according to act of Congress A. D. 1861, by Johnson, Fry & Co. in . . . New York.* The West portrait, carried out to a full-length seated before a table on which are a drawing board and drawing instruments; two rolls of paper on floor behind the chair. $7\frac{3}{8} \times 5\frac{1}{4}$. Line engraving.

From "National portrait gallery of eminent Americans . . . by Alonzo Chappel; with . . . narratives by E. A. Duyckinck," vol. 1, N. Y. [copyright, 1861], oppo. p. 439.

— Same, earlier and better impression. Large paper.

569. **R. Fulton** [fac-simile of signature] | *From an original painting by Chappel in the possession of the publishers* | *Johnson, Wilson & Co., Publishers New York.* | *Entered according to act of Congress A. D. 1874 by Johnson, Wilson & Co. in . . . Washington.* Three-quarter length, directed and facing left, looking front, left forearm resting on back of chair, right hand holding cane; curtain behind, at right; at left, a steamboat passing the Palisades. $7\frac{3}{8} \times 5\frac{1}{4}$. Line engraving.

Based on the West portrait.

From "Portrait gallery of eminent men and women . . . with biographies by E. A. Duyckinck," vol. 1, N. Y. [copyright 1872], oppo. p. 800.

— Same, "masked" proof. Uninked embossed impression of *R. Fulton* can be made out. India paper. Large paper copy.

570. **R. Fulton** [fac-simile of signature]. Left: *Painted by B. West, P.R.A.*; right: *Engd. by H. B. Hall, Jr.*; centre, below title: *D. Appleton & Co.* Bust, from the West portrait. $5\frac{1}{4} \times 4$. Line engraving.

In "Appletons' Cyclopaedia of American biography,"

vol. 2, N. Y., 1888, oppo. p. 553.

Reproduced in half-tone in "The Outlook," vol. 60, 1901, p. 557.

571. **ROBERT FULTON.** Left: *FROM A PORTRAIT IN POSSESSION OF ROBERT FULTON BLIGHT, ESQ.*; right: *ENGRAVED BY R. G. TIETZE.* $5 \frac{1}{16} \times 3 \frac{7}{16}$. Wood engraving.

In "The Century Magazine," vol. 53, new series, vol. 31, Dec. 1896, p. 169.

572. **ROBERT FULTON** | *1765-1815.* Left: *Harper's Black and White Prints*; right: *From Harper's Weekly.* Copyright, 1895, by Harper & Brothers. $5\frac{3}{4} \times 4 \frac{7}{16}$. Half-tone from a painting.

Differs in the face from the engraved reproductions of the West portrait. Published in "Harper's Weekly," Jan. 26, 1895, p. 87. Another reproduction of this, a half-tone printed in blue; appears in the "Connecticut Magazine," vol. 11, 1907, p. 363, "by courtesy of the Nautical Gazette."

In the "Year Book" of the "Pennsylvania Society,

Prints, Robert Fulton, cont'd.

N. Y.," oppos. p. 128, there appears a half-tone reproduction "After the painting by Benjamin West, owned by R. Fulton Ludlow."

573. "Robert Fulton. By H. R. Burdick, after Benjamin West (1738-1820). In possession of the publishers." The West portrait, cut off just below the hands. 6 5/16 x 4 13/16. Photogravure.

From Frederick S. Harrison's "Biographical Sketches of pre-eminent Americans," Boston [1892-98], vol. 1, plate 22.

574. *Robert Fulton Esqr.* Left: *West Pt.*; right: *Leney sc.*; centre, below title: *Engraved for the Analectic Magazine—Published by M. Thomas.* Bust, directed front, facing and looking right; curtain indicated beyond. 3 1/2 x 2 15/16. Stipple engraving.

Different from the West portrait in design and facial expression.

From the "Analectic Magazine," vol. 10, Sept. 1817, oppos. p. 177.

575. **ENLARGED MINIATURE PORTRAIT OF ROBERT FULTON.** | *Artist unknown.* Bust, directed front, facing and looking right. Oval. 3 9/16 x 2 1/2. Half-tone.

On page "Some relics of Robert Fulton," viz.: The West portrait of Fulton, Fulton's portrait of Barlow painted 1805, three pen-and-ink sketches by Fulton, Fulton's birthplace: painting by R. Fulton Ludlow, "Red-heffer's" perpetual motion, medicine-chest used by the Fulton family, sectional plan of a model dwelling-house: a drawing by Fulton embodying "Some Thoughts in 'Colonnade Architecture.'" In "Harper's Weekly," Jan. 26, 1896, p. 87. On pp. 86 and 88, an article describing the relics of Robert Fulton, preserved by Robert Fulton Ludlow at Claverack, N. Y.

576. A bust of a young man with short, curly hair, directed facing and looking left, drapery leaving shoulders and chest partly bare. **FULTON** on base of bust. To the right, a column, in front of which four volumes, labeled **ROMSEY, FITCH, STEVENS** and **EVANS** respectively. Apparently cut from a larger picture. 3 3/16 x 2 3/8. Lithograph.

577. **ROBERT FULTON, OF STEAMBOAT FAME, WHOSE STATUE, MODELED BY BLANCHE NEVIN, IS CONTRIBUTED BY PENNSYLVANIA, HIS NATIVE STATE.** 4 7/8 x 2 5/8. Half-tone from photograph.

From "Munsey's Magazine," March, 1907, p. 841.

- 578.* Photograph of the statue of Robert Fulton, seated, in the Statuary Hall, United States Capitol, Washington. 8 3/16 x 7.

The statue is shown from the front. In "Harper's Weekly," vol. 27, March 17, 1889, p. 164, there was published a wood-engraving from a photograph by Bell, showing it in profile to left. It was placed in the Hall of Representatives in 1883.

579. **STATUE OF ROBERT FULTON.** | **[PHOTOGRAPHED BY R. SPITZER, BROOKLYN, E. D.]** Lower left corner: *S. Fox.* Fulton holding up end of long coat with left hand, right hand resting on model of boat. Border of one line. 5 11/16 x 2 11/16. Wood engraving.

The bronze statue erected in the Fulton ferry, Brooklyn, "modeled by H. Buberl [probably Caspar Buberl], the face being copied from an original portrait, supposed to be the only one in existence, in the possession of the late Dr. Vinton, of Brooklyn."

From "Harper's Weekly," Nov. 2, 1872, p. 844; repub-

lished in Harper's Weekly, Jan. 5, 1889. Supplement, to accompany an illustrated article by S. B. Dod on "The evolution of the ferry-boat."

- 579 1/2. *Robert Fulton.* A photograph, front view, of the Buberl statue. 5 1/4 x 2.
In "Historical sketch of the Fulton Ferry,"... by a director [H. E. Pierrepont], Brooklyn, 1879, frontisp.

580. "The Fulton Monument." Half-tone from photograph of the monument "Erected to the memory of Robert Fulton. Born 1765. Died 1815. By the American Society of Mechanical Engineers, 1901," in Trinity Churchyard, New York City. 3 3/8 x 2 3/8.

From "The Four Track News," Dec. 1902, p. 278.

581. The unveiling of the Fulton monument, Trinity Churchyard. 2 15/16 x 5. Half-tone from photograph. Proof.

Published in "Scientific American," Dec. 21, 1901, p. 407.

- Same. 1 3/4 x 3. Half-tone from photograph. Proof.

582. **THE BRONZE MEDALLION OF ROBERT FULTON.** Bust, directed and facing right, looking front. 2 3/4 x 3. Half-tone from photograph of the medallion on the Trinity Church monument. Proof.

Published in "Scientific American," Dec. 21, 1901, p. 407.

583. **THE FULTON HOMESTEAD.** | **WASHINGTON CO. PENNA.** Left, within border: *SHERWIN*; left: *Drawn by D. Albright*; right: *I. N. Rosenthal's lith. N. W. cor. Fifth & Chestnut Sts. Philada.* 4 1/2 x 7 13/16. Lithograph, one tint.

From J. F. Reigart's "Life of Robert Fulton," Phila., 1856, oppos. p. 39.

584. **HOUSE IN LANCASTER, PA. WHERE ROBERT FULTON | WENT TO SCHOOL: N. COR. E. KING ST. AND | CENTRE SQUARE: STANDING 1860.** Right: "D.M.S." [monogram]. Vignette. 3 5/16 x 3 3/8. Pen drawing by D. McN. Stauffer.

585. **FULTON FARM.** Left: *Designed by Reigart*; right: *L. N. Rosenthal's lith. N. W. cor. Fifth & Chestnut Sts., Philada.*; left, below: *RESIDENCE OF JOHN W. SWIFT*; right, below: *RESIDENCE OF DANIEL D. SWIFT.* 4 1/2 x 7 13/16. Lithograph, one tint.

From J. F. Reigart's "Life of Robert Fulton," Phila., 1856, oppos. p. 29.

Fulton's House. See No. 257.

586. **THE GRAVE OF FULTON.** | *Trinity Churchyard, Broadway New York.* Left: *Designed by Reigart*; right: *L. N. Rosenthal's lith. Philada.* 7 1/8 x 4 1/8. Lithograph, one tint.

In J. F. Reigart's "Life of Robert Fulton," Phila., 1856, oppos. p. 201.

587. **ROBERT FULTON'S GRAVE:** title at centre within border. 2 5/16 x 2 3/16. Wood engraving.

588. **MRS. ROBERT FULTON, | Niece of Chancellor Livingstone.** | *Reproduced by the Autotype Company, London. From the original Oil Painting by James Sharples.* 4 3/4 x 4.
In James Walter's "Memorials of Washington..." N. Y., 1887, oppos. p. 241.

Prints, Robert Fulton, cont'd.

589. **MRS. ROBERT FULTON.** Left: *FROM A MINIATURE IN POSSESSION OF ROBERT FULTON BLIGHT, ESQ.;* right: *ENGRAVED AND BORDER DESIGNED BY FRANK FRENCH.* 4 x 3½; to border, 5½ x 4¾. Wood engraving.

In "The Century Magazine," vol. 58, new series, vol. 81, Dec. 1896, p. 168.

Fulton as an Artist.

590. **JOEL BARLOW ESQ.** Bust, directed and facing right, looking front. Centre, above title: *Edwin sc.;* centre, below: *Engraved for the Analectic Magazine. Published by M. Thomas.* Border of one line at left and top, two at right and bottom. 3½ x 3; to border, 3¾ x 3¾.

In "Analectic Magazine," vol. 4, Philadelphia, August, 1814, oppos. p. 89.

591. **JOEL BARLOW.** | *J. Barlow* [fac-simile of signature]. Left: *Painted by Robt. Fulton;* right: *Eng. by A. B. Durand.* 4 11/16 x 3¾. Line engraving.

a. Trial proof.

b. As described. India paper.

Published in "National portrait gallery of distinguished Americans," Phila., 1835, vol. 1 and 1852, vol. 1.

— Same. EM. 4878.

592. **PAINTING BY ROBERT FULTON** | *The subject is Fulton's fellow associate and utilitarian, Joel Barlow...* [2 lines] | ... *Original is now in possession of the Barlow family in New York and a replica is owned by Fulton's grandson, Robert Fulton Ludlow of Claverack, New York.* 5¼ x 4¾. Half-tone, from photograph of painting, printed in blue.

In the "Connecticut Magazine," vol. 7, 1907, p. 388.

The painting is now owned by Judge Peter T. Barlow.

593. **ABRAHAM BALDWIN** | *Abr. Baldwin* [fac-simile of signature]. Centre, above title: *Engraved by J. B. Forrest from a drawing by E. G. Leutze after an original sketch by R. Fulton.* Half-length, directed and facing left, looking front; seated, left hand on arm of chair. 4 7/16 x 3 7/16. Line engraving.

— Same. EM. 1276.

594. **ABRAHAM BALDWIN** | *Artist, Robert Fulton.* Bust, directed and facing left, looking front. *Max & Albert Rosenthal* under left shoulder. Vign. 4¼ x 3. Photomechanical reproduction of drawing.

595. Illustrations to Barlow's Columbiad. Titles: *THE MURDER OF LUCINDA; CRUELTY PRESIDING OVER THE PRISON SHIP; HESPER APPEARING TO COLUMBUS IN PRISON; CORNWALLIS RESIGNING HIS SWORD TO WASHINGTON; CESAR PASSING THE RUBICON; THE FINAL RESIGNATION OF PREJUDICES; INITIATION TO THE MYSTERIES OF ISIS.* On each, left: *DESIGNED BY FULTON;* right: *L. N. ROSENTHAL. LITH. PHILA.* Lithographs, in color, by Max Rosenthal, from designs by Fulton. 6½ x 4¾.

In Reigart's "Life of Fulton," Phila., 1856.

596. "Steering by the Wheel | Drawn from the life: Pencil Sketch from the Sketch book of Robert Fulton." 7¼ x 5½. Photograph of pencil drawing.

In "Harper's Weekly," Jan. 26, 1895, p. 87, was published a page of "Some relics of Robert Fulton," including reproductions of several pencil sketches by Fulton. (See note to no. 575.)

Inventions by Fulton other than Boats.

597. **Double Inclined Plane:** title at centre of page. Above and below, illustrations of two mechanical devices, for use on canals, for raising and lowering vessels from one level to another. Left: *Designed by Fulton;* right: *L. N. Rosenthal's Lith. Phila.* 7 13/16 x 4¾. Lithograph, one tint.

From J. F. Reigart's "Life of Fulton," Phila., 1856, oppos. p. 98.

- 597½. A plate of 13 figures, *Vol. VII., Pl. XIII* over upper right corner. Line engraving.

Accompanying "Specification of the Patent granted to Mr. Robert Fulton, of the City of London; for his invention of a Machine or Engine for conveying Boats or Vessels, and their Cargoes, to and from the different Levels in and upon Canals..." Dated May 8, 1794.

In "Repertory of Arts and Manufactures," vol. 7, London, 1797, oppos. p. 280.

- 598.* **Picture of Fulton's design for a cast iron canal aqueduct, with structural detail.** On lower half of a quarto sheet containing a similar illustration. Title, above: *CANALS. | CAST IRON AQUEDUCTS.* | *Mr. Telford's, on the Shrewsbury Canal at Long.* In centre: *by Mr. Fulton.* Size of Fulton design, 3¾ x 7. Line engraving. About 1820.

599. **FULTON'S CAST-IRON AQUEDUCT.** Left, within border: *J. H. SHERWIN;* left: *Designed by Fulton;* right: *L. N. Rosenthal's lith. Philada.* 4¾ x 7 9/16. Lithograph, one tint.

From J. F. Reigart's "Life of Robert Fulton," Phila., 1856, oppos. p. 93.

600. **Oct. 15 1805. BRIG BLOWN UP by Fulton's Torpedo | and her annihilation complete.** Left: *Designed by Fulton;* right: *L. N. Rosenthal's Lith. Philada.* 4¾ x 7 13/16. Lithograph, one tint.

From J. F. Reigart's "Life of Robert Fulton," Phila., 1856, oppos. p. 118. See also no. 555.

601. **Copper Cylinders, Torpedoes united by a coupling line, drifting down on each Side of the Vessel. | The Harpoon and a Torpedo set with weight and anchor, so that a vessel passing over and touching | the spring at the top would cause it to explode.** Left: *Des. by Fulton;* right: *Lith. by L. N. Rosenthal.* 4¼ x 7 13/16. Lithograph, one tint.

From J. F. Reigart's "Life of Robert Fulton," Phila., 1856, oppos. p. 120.

Fulton's Boats.

602. **ROBERT FULTON'S FIRST EXPERIMENT WITH PADDLE WHEELS IN THE SUMMER OF 1779—ON THE CONESTOGA.** Centre, within border: *SHERWIN;* left: *Designed by Reigart;* right: *L. N. Rosenthal's*

nts, Robert Fulton, cont'd.

th. N. W. cor. Fifth & Chestnut Sts., Philada. 9/16 x 7/8. Lithograph, one tint.

om J. F. Reigart's "Life of Robert Fulton," Phila., oppos. p. 36.

The Nautilus | plunged with Mast and
ails, struck, as it moved between the upper |
nd lower waters in the harbour of Brest,
uly 1801: title at centre of page; *The Mute*:
tle below lower border. Left: *Des. by Ful-*
n; right: *Lith. L. N. Rosenthal Phil.* 7 13/16
4 1/2. Lithographs, one tint.

om J. F. Reigart's "Life of Robert Fulton," Phila.,
oppos. p. 140.

* *STEAM-VESSELS, built in the City of
EW-YORK, under the Direction and Super-
intendence of ROBERT FULTON, or accord-
ing to his Plan.* Small oblong folio printed
roadside, giving the names of fifteen steam
essels designed by Fulton, with the names of
their builders, the places where the boats
were built, and where they were used, the
ates of their construction, their tonnage and
imensions, and the measurements of their
oilers, engines and water wheels. At bottom:
Signed) Smith. Size of sheet: 8 15/16 x
1 15/16. Dated: *New-York, Sept 7, 1816.*

[Illustrations of steamships and subma-
ine vessels designed and built by Robert
Fulton.] 4 5/16 x 7/8. Lithograph, one tint.
om J. F. Reigart's "Life of Robert Fulton," Phila.,
oppos. p. xlii.

THE NORTH RIVER OR CLERMONT. |
OBT. FULTON, 1807. Left: *Drawn by*
C. Bourne; right: *C. F. Cheffins, Lithog.*
entre, above title: *Published 1st July 1848.*
order of one line. 4 11/16 x 6 14/16; to
order, 4 15/16 x 7 1/8. Lithograph in one tint.

"A Sketch of the Origin and Progress of Steam
avigation from Authentic Documents," by Bennett
Woodcroft, London, 1848, p. 60.

His picture of the Clermont was made from the sketch
Joseph C. Dyer, of Burnage, England, a personal ac-
quaintance of Fulton, and who inspected and travelled in
the boat. It has been generally accepted as the most
entire view of the vessel as she appeared in 1807, after
paddle wheels had been enclosed and protected by
timbers. In speaking of Fulton's use of previous
inventions, Woodcroft says (p. 64): "If these inventions,
separately, or as a combination, were removed out of
the boat, nothing would be left but the hull."—S. D.
John H. Morrison, in his "History of New York Ship-
ping" (N. Y., 1900), gives an account, on pp. 23-24, of
Charles Browne, builder of the hull of the "Clermont."
p. 34 is given a picture of the "Clermont" with two
paddles, and on p. 35 one with no sails and 16
paddles. The former, says the author, is from the *Me-
chanics' Magazine* of New York of August, 1839, the other
is a tourist's guide of 1841, and pronounced by Capt.
Wilcox, who was a cabin boy on the "Paragon" in
1807, "the best picture of the vessel I have seen." Wilcox
added a pennant, in pencil, to the foremast. These two
pictures, says Morrison, are the first "having any authority
attached to them."

14. *ROBT. FULTON'S STEAMBOAT,
THE NORTH RIVER OR CLERMONT,*
1807. | *From a sketch by Joseph Dyer Pubd*
by Woodcroft's origin and progress of Steam
Navigation. 2 x 4 1/8. Line engraving.

* *FULTON'S STEAMBOAT.* Occupying
the lower half of a sheet, with facsimile of
Fulton's writing above. 4 10/16 x 6 6/16.
Lithograph. About 1840.
One of the few prints showing the bell used to call pas-

sengers. The paddle wheels, here shown unprotected,
were enclosed before the machinery was covered by the
forward cabin.

608. *THE MACHINERY OF FULTON'S
FIRST STEAMBOAT.* | *Imported from Eng-
land where it was constructed in 1805. Wheels*
fifteen feet in diameter, cylinder twenty-four
inches in diameter, four feet stroke. 2 7/16 x
4 1/8. Wood engraving.

609. *THE NORTH RIVER, OF CLARE-
MONT.* | *Robert Fulton's first steamboat as*
she appeared after being lengthened in 1808.
She was launched in 1807, and was run as a
*regular packet between New York and Al-
bany. Speed four miles per hour, length 133*
feet, beam 18 feet, depth 8 feet, tonnage 160.
Wood engraving by J. W. ORR, N. Y. Vign.
2 7/16 x 3 11/16.

This and the preceding on p. 286 of "Eighty years'
progress of the United States," vol. 2, N. Y. 1861.

The printed reference to the boat's appearance is inac-
curate. As here shown the boat somewhat resembles the
descriptions of her early build. Her paddle wheels were
enclosed before she was lengthened. The boiler, about 20
feet long, was set in masonry, the weight of which much
decreased the vessel's buoyancy.

610.* *Fig. 99.—Le Clermont, premier bateau à*
vapeur de Fulton, naviguant sur l'Hudson, de
New-York à Albany (page 200). In lower
right corner: *E. DESCHAMPS.* Below,
left: *Corbeil, Crété et Fils, imp.;* right: *Furne,*
Jouvet et Cie., edit. 4 1/16 x 5 7/16. Wood
engraving. Paris, about 1865-70.

611.* *"The Clermont," Fulton's first American*
Steamboat. 2 1/4 x 3 15/16. Wood engraving.
About 1845.

Paddles (which were 15 feet in diameter), much too
large in proportion to the boat's length of 133 feet, and
given 16 blades. The cabin was not so long during the
exposed paddle-wheel period of the boat.

612. *FULTON'S FIRST AMERICAN STEAM-
BOAT.* Vign. 2 1/4 x 4. Wood engraving.
About 1850.

613. [The Clermont.] 1 9/16 x 2 1/2. Vignette.
Wood engraving. Proof.

Published in J. Munsell's "Annals of Albany," vol. 6,
1855, p. 34.

614. "First trip of Fulton's Steamboat to Albany
1807." S. Hollyer. Copyright 1907. 3 1/4 x
5 3/8. Etching.

Hollyer's "Views of old New York," 6th series. The
"Clermont" passing the Palisades.

615.* A steamboat apparently intended to repre-
sent the Clermont as she appeared after being
lengthened and rebuilt, though the paddle
wheels are left uncovered. Above: 128.
1 7/16 x 2 3/4. Line engraving. American,
about 1815-1820.

616. *FIRST STEAMBOAT IN THE WORLD
TO ESTABLISH PERMANENT TRAF-
FIC.—Model of the "Clermont" in the Na-
tional Museum at Washington showing a craft*
*totally dissimilar to the accepted illustra-
tions of this historic vessel ...* 3 x 7. Half-tone
printed in blue.

From the Connecticut Magazine, vol. 11, no. 8, 1907,
oppos. p. 370.

Prints, Robert Fulton, *cont'd.*

617.* *Fig. 97.—Fulton monte sur son bateau à vapeur, le Clermont, à New-York, pour son premier voyage, le 11 avril 1807 (page 190).* In lower right corner: E. DESCHAMPS. Left: Corbeil, Crété et Fils, imp.; right: Furne, Jouvet et Cie., édit. 4 x 5 7/16. Wood engraving. About 1865-70.

618. *September 1807. The "CLERMONT," the first Steam Packet | of the World sailed from New York to Albany.* Left, within border: J. H. SHERWIN; left: Designed by Reigart; right: L. N. Rosenthal's Lith. Philada. 4 3/4 x 7 13/16. Lithograph, one tint.

From J. F. Reigart's "Life of Fulton," Phila., 1856, *oppos.* p. 171.

619.* *The Clermont on the Hudson river. City in distance. On stern of vessel: CLERMONT.* 2 3/16 x 2 15/16. Wood engraving. Recent. The picture makes the vessel stand too high out of the water. Her depth was seven feet.

620.* *Departure of the Clermont on her First Voyage. On stern of vessel: CLERMONT.* Showing Castle Garden and lower end of city. 3 1/16 x 5 6/16. Wood engraving.

Modern. Same appearance of boat as in preceding.

621. ROBERT FULTON'S "CLERMONT" PASSING STORM KING | AND OLD CRO'NEST IN THE HIGHLANDS OF THE HUDSON. Left: PRESENTED BY THE HUDSON RIVER | DAY LINE, NEW YORK, ON THE ONE | HUNDREDTH ANNIVERSARY OF THE | START OF THE "CLERMONT"; right: REPRODUCED BY COURTESY OF | "THE RUDDER"; right, within border: WARREN SHEPPARD, Copyright, 1907. 9 1/16 x 7. Half-tone in color.

This is an illustration for "An Historical Souvenir, presented by the Hudson River Day Line, New York, on Robert Fulton Day, August 17, 1907, to commemorate the Centennial of Fulton's "Clermont," the first successful steamboat in the world, which started up the Hudson at 1 p. m., August 17th, 1807." The souvenir contains four letters dated August 28, 1807; November 28, 1829; August 12, 1853; and —, 1907, respectively, describing the progress of steam navigation in America. The same print was issued also with "The Nautical Gazette" for August 30, 1906.

622. [The "Clermont," Fulton's first steamship.] Left: BONWILL Del.; right: P. MEEDER Sc. 7 1/2 x 4 3/8. Wood engraving.

This picture of the "Clermont" is identical with the one in the woodcut on p. 211 of J. W. Barber's "Historical Collections of the State of New York," 1851, with two exceptions: the artist has here added five transverse rings to the smokestack, and a bell to the frame behind the smokestack.

623. THE "CLERMONT." 2 7/8 x 4 3/8. Vignette. Wood engraving.

The boat is steaming up stream past the Palisades; spectators on the right bank.

624. *The Clermont—Fulton's first Steamboat.* Right: N. ORR—CO. SC. Vig. 2 11/16 x 4 5/16. Wood engraving.

In M. L. Booth's "History of the City of New York," N. Y., 1880, p. 682.

625. PERSPECTIVE VIEW OF MACHINERY IN FULTON'S CLERMONT, 1807. Left: Drawn by H. B. Barlow; right: C. F. Chef-

ins Lithog.; centre, above title: *Published 1st July, 1848.* In border of two lines. 3 3/16 x 6 1/4; to border, 4 10/16 x 7 7/8. Lithograph. In Woodcroft's "Sketch of . . . steam navigation," London, 1848, p. 64.

See also, for small pictures of the "Clermont," nos. 564, 565.

The reproduction of the "Clermont," built for the Hudson-Fulton Celebration of 1909, was pictured in the "New Yorker Staats-Zeitung" (July 11, 1909), "New York Times" (Aug. 22, 1909), and other papers.

626. THE PARAGON STEAM-BOAT. Right: A. Anderson Sc. Centre, below title: *Engraved for the Med. & Phil. Register.* 3 3/4 x 6 5/16. Line engraving.

See also no. 491 ("Catskill Mountains and the steam boat . . ."), which, says Seymour Dunbar, "is perhaps the earliest published picture of a steamboat on the Hudson river. Up to that time the three Hudson boats with masts built by Fulton were the Clermont (1807), Car of Neptune (1807-8), and Paragon (1811). Because of the date of publication, and the appearance of the boat, it is probable that this is intended to be a sketch of the Paragon. Several details of the boat as shown, however—including the exposed paddle wheel—point to the possibility that the vessel may be the Clermont as she appeared in her early trips in 1807. Only the discovery of the date of Glennie's original drawing can settle the point." Of the later state of this plate Mr. Dunbar says:

"The original boat is replaced by an entirely different vessel with cabins, and with paddle wheels enclosed and protected by heavy timbers. The steamboat here shown is the Firefly (1812) of the Richmond (1813), with the probabilities in favor of the last named. (See statistics on broadside, no. 604 in this list.)

627. THE PARAGON STEAMBOAT. | Copied from an Original Drawing by Robert Fulton, in the possession of J. Allen. Left: Copied by J. Hayward, 120 Water Str. N. Y.; right: for D. T. Valentine's Manual 1852. 3 3/8 x 6 1/8. Lithograph, one tint.

Same design as preceding type.

628. LAUNCH OF THE STEAM FRIGATE FULTON THE FIRST, AT NEW YORK 29TH. OCTR. 1814. | 150 feet long and 57 feet wide, will mount 30 long 32 pounders, and 2 100 pounders (Columbiards). Left: Copied from a Sketch by Morgan taken on the spot; right: Lith. by G. Hayward 120 Water St. N. Y. for D. T. Valentine's Manual 1852. 6 11/16 x 14 1/2. Lithograph, blue tint.

— Same, brownish tint, different cloud effect.

629. THE DEMOLOGOS OR FULTON THE FIRST: title at centre above. Centre, within lower border: *The first Steam Vessel of War in the World.* Left: Designed by Fulton; right: L. N. Rosenthal's Lith. Phila. 7 13/16 x 4 3/8. Lithograph, one tint.

From J. F. Reigart's "Life of Robert Fulton," Phila., 1856, *oppos.* p. 186.

630.* *Angfartyget | CHANCELLOUR LIWINGSTON | Lång på däck 160 fot; bred 34 fot.* Left: Rit. af Klinkowström; right: Gr. af Akrell. A longitudinal section of the boat above, and a broadside view beneath, both surrounded by a border of one line. Below, at right and left, six printed lines of descriptive notes referring to features of the vessel. 9 7/8 x 21 10/16. Aquatint, about 1824.

The Chancellor Livingston was the last steamboat designed by Fulton, who died before her completion. She was built in 1816 for the Hudson River. Her dimensions

ints, Robert Fulton, cont'd.

re: Length 156 feet, depth 10½ feet, breadth 84 feet, displacement 526 tons.

Pictures of the vessels built by Fulton have been, of course, frequently published. Thus, in Samuel Ward's "American steam vessels," N. Y., 1895, there appear, re-drawn in pen and ink, the "Clermont," "Paragon," "Hope," "Demologos." Among numerous pictures later vessels given in this book are those of the "Philadelphia" (Delaware River, 1813), "Chancellor Livingston" (1816, 1828), "Walk-on-the-Water" (1818).

1. * STEAM PACKET "CHANCELLOR LIVINGSTON"—1817 | Built from plans drawn by Fulton for a corporation that held a monopoly of the waters of | New York state for the use of steam propelled vessels—Photographed from a rare old print. 5 13/16 x 5 1/16. Half-tone.

See also no. 505.

New York City Ferries.

See also nos. 41 (note), 102, 151, 170, 196, 196½, 208, 214, 5, 216, 318, 320, 324, 570 (note).

2. THE FERRY HOUSE, 1746. | (Fulton Street, Brooklyn.) Left: Lith. by Geo. Hayward, 120 Water St. N. Y.; right: for D. T. Valentine's Manual for 1858. 3 11/16 x 6 2/16. Lithograph, one tint.

In "Valentine's Manual," 1858, oppos. p. 493. Showing early type of flat-bottomed sail boat used for a ferry. The boats were sometimes tilted by squalls, spilling their passengers. Copied from the Burgis view, 1717 (see no. 40). The same view was also engraved in wood by N. P. R., with the title, "Old Brooklyn Ferry House of 1746."

33. FULTONS—STEAM FERRY BOAT. Right: Leney Sci.; centre, below: For the Med. & Phil. Register. 3 7/16 x 6 11/16. Line engraving. EM. 12469.

From "American medical and philosophical register," N. Y., 1813, v. 3, oppos. p. 196.

"Showing the Paulus-Hook, or Jersey City Ferry Boat of 1812, with mechanism of the ferry slip and deck and round plan of the boat and slip. The boat was 80 feet long, 30 feet wide, carried 300 passengers and about 10 vehicles, and crossed the river in from 14 to 19 minutes."—Seymour Dunbar.

34. * Fulton's Steam ferry Boat. | Engraved for Archives of Useful Knowledge. Along lower right border: Page 201. 3 11/16 x 7 3/16. Line engraving. Published in January, 1813.

A view of the Jersey City Ferry of 1812, and an amidship cross-section of the boat and the steering apparatus.

35. Fulton's Ferry System, 1812. On plate with three illustrations of bridge construction.

From J. L. Ringwalt's "Development of transportation systems in the U. S.," Phila., 1888.

36. * New York and Brooklyn Ferry. 1 3/16 x 2 3/16. Wood engraving.

On an advertisement, dated May 8, 1814, giving the computation rates on the Brooklyn Ferry established by Fulton.

37. * [Fulton's Steam Ferry Boat between New York and Brooklyn.] Vign. 1 14/16 x 3 9/16. Line engraving. Published about 1813.

A view showing the helmsman, the ladder leading to the upper deck, and the captain on the upper deck using speaking trumpet.

37½. * "Schets teekening der Stoomovervaart-booten (steam ferries) met hunne landing-plaatsen; en van en stelsel van twee aan een verbondene Stoomvartuigen, zoo als dezelve in de Vereenigde Staaten van Noord Amerika gevonden worden.—(Plaat XIV van het rapport.)"

A sheet of wash drawings (8 figures) accompanying a

manuscript extract from a report, dated Feb. 23, 1826, by A. E. Tromp, dealing with Hudson River ferries and boats. The drawings show a side view of the Fulton ferry boat and slip, a plan of the same, and a view of the boat "Commerce," and her tow, the safety barge "Lady Clinton."

638. FULTON FERRY BOAT "WM. CUTTING," | built in 1827. Left: D. T. Valentine's Manual for 1859; right: by Geo. Hayward, 171 Pearl St. N. Y. Border of one line. 3½ x 5¾; to border, 3½ x 6⅞. Lithograph, one tint.

— Same. EM. 11331.

639. FULTON FERRY BOAT "UNION." | built in 1836. Left: Lith. for D. T. Valentine's Manual for 1859; right: by Geo. Hayward, 171 Pearl St., N. Y. Border of one line. 3 7/16 x 6; to border, 3½ x 6 3/16. Lithograph, one tint.

640. FULTON FERRY BOAT "OLIVE BRANCH." | built in 1836. Left: Lith. for D. T. Valentine's Manual, for 1859; right: by Geo. Hayward, 171 Pearl St. N. Y. Border of one line. 3½ x 6; to border, 3½ x 6⅞. Lithograph, one tint. EM. 11332.

641. FULTON FERRY BOAT "OVER." | built in 1840. Left: Lith. for D. T. Valentine's Manual for 1859; right: by Geo. Hayward, 777 Pearl St. N. Y. Border of one line. 3 9/16 x 6 1/16; to border, 3 11/16 x 6 3/16. Lithograph, one tint. EM. 11333.

642. * Ansicht der Fähre zu Brooklyn bei New-York. Lower left corner, "A. S." 4 14/16 x 6 15/16. Line engraving. Published in Germany about 1840.

A close copy of the print of the Brooklyn Ferry published in London in 1838 (see no. 170).

643. * THE JERSEY CITY FERRY BOAT, FROM NEW YORK. Lower left corner: PEIRCE. 8 2/16 x 9 6/16. Wood engraving. About 1855.

The "Colden," crowded, in mid-stream. There are no guard rails at the end of the boat, and passengers are sitting on the deck with their legs hanging over the edge.

644. * THE FERRY FROM BROOKLYN TO NEW YORK. Lower left corner: N. Callie, Sc. 7 2/16 x 9. Wood engraving. About 1860.

The "Somerset" entering her slip. Rope or chain across front of boat, with passengers standing near unguarded edge of deck. People occupy the end of the slip before passengers have left boat.

645. * HOBOKEN FERRY: in lower right corner. 5 14/16 x 7 14/16. Photograph. About 1880.

A picture of the "Communipaw."

646. "Ferry Boat Brooklyn 1884." 2⅞ x 4¾. Pencil drawing by Warren Sheppard, 1907. On same sheet with no. 719.

646½. PECK SLIP, N. Y. 1850.

See no. 212.

647. * FULTON STREET, FROM THE FERRY, BROOKLYN, N. Y. Bottom, to left of centre: TARBELL Sc. 5 3/16 x 9 5/16. Wood engraving. 1857.

Showing the locality pictured in the print, "The Ferry House, 1746"; (see no. 632), as it appeared in 1857.

648. * HELLGATE FERRY.—FOOT OF 86TH ST.—1860. Left: Lith. of Sarony, Major and

Prints, Robert Fulton, cont'd.

- Knapp, 449 Broadway, N. Y. Right: for D. T. Valentine's Manual, 1861. Border of one line. Without border, 5 7/16 x 8; to border, 5 12/16 x 8 4/16. Lithograph, one tint.*
649. *FULTON FERRY, NEW-YORK. Built of Iron 1863. Left: Lith. by G. Hayward 171 Pearl St. N. Y. Right: for D. T. Valentine's Manual 1864. Border of one line. 5 10/16 x 9 11/16; to border, 5 14/16 x 9 15/16. Lithograph, two tints and colored.*
See also nos. 214-216.

JACKSON FERRY.

See no. 208.

Early American and other Steam Boats prior to Fulton.

650. *Statue de Denis Papin. In lower left corner: A. CALMEUS, 1840. Left: J. GAGNEIT. 5 7/16 x 1 1/8. Wood engraving. About 1865?*

From a French periodical.

Preble, in his *Chronological History of the Origin and Development of Steam Navigation*, Phila., 1885, says that Papin built and navigated a boat on the river Fulda, Germany, in 1707.

651. *DENIS PAPIN. | STATUE BY AIME MILLET RECENTLY INAUGURATED AT BLOIS, FRANCE. Arched top. 8 3/4 x 4 3/4. From the N. Y. "Graphic," Sep. or Oct. 187-?*

- 652.* *MR. JONATHAN HULLS. | THE INVENTOR OF THE | STEAM BOAT. Centre, above title: Engraved by W. T. Fry from an original painting. Border of two lines. 2 3/4 x 2 1/8; to border, 2 14/16 x 2 1/4. Line engraving. India paper.*

Hulls, an Englishman, took out a patent for his boat in 1786.

653. [Engraving of a British sailing frigate in tow of Jonathan Hulls' machine.] Centre: *Published according to Act of Parliament 1737; right: Jon. Hulls invt. et Delint. 6 1/4 x 13/8.*

In Jonathan Hulls' "Description and draught of a new-invented machine for carrying vessels or ships out of, or into any harbour, port, or river, against wind or tide, or in a calm," London, 1737. Frontispiece.

654. *Jonathan Hulls' Steamboat; used as a means of Towing other Vessels out of Harbor. Patrick Miller's double Boat; 1787. Left: Des. by Reigart; right: Lith. by Rosenthal. 4 1/2 x 6 1/4. Lithograph in one tint.*

From J. F. Reigart's "Life of Robert Fulton," Phila., 1856, oppo. p. 154.

- 655.* *Experience du Marquis de Jouffroy faite sur la Saone a Lyon, le 15 juillet 1783. In lower left corner: U. PARENT. In lower right corner: E. DESCHAMPS. On line with title, left: Fig. 86; right: (page 166.) 4 1/8 x 5 1/2. Wood engraving.*

According to Preble, in his "Chronological History of Steam Navigation," Jouffroy was the fourth man to actually build and operate a boat which moved by its own steam power. The first, according to Preble (pp. 5-7) was Papin, the Frenchman, on the River Fulda, in Germany, in 1707; the second, Comte de Auxiron, in 1774; the third, Perrier, on the Seine in 1775; the fourth, Jouffroy, also French, on the Seine at Paris in 1783.

- 656.* *Fig. 85. Mecanisme Moteur du bateau a roues du Marquis de Jouffroy | (coupe et elevation). 2 10/16 x 3 7/16. Wood engraving. About 1865-70.*

- 657.* *John Fitch's Model of Sept., 1785, with endless chain and floats and paddle-boards, is possession of the American Philosophical Society. 13/16 x 3/4. Wood engraving.*

From "The Life of John Fitch," by Westcott, p. 181. Showing also a section of chain and paddle.

The model of Fitch's first boat, a small skiff, propelled by paddle-boards attached to an endless chain. It was tried on the Delaware river, at Philadelphia, about July 20, 1786. Fitch thought of the vertical oar plan, fitted the skiff with the oars, and "the first boat successfully propelled by steam in America was moved in the Delaware on the 27th of July, 1788." (Preble's "Chronological History," pp. 14-15.)

- 658.* *Plan of Mr. Fitch's Steam Boat on the upper part of an octavo sheet, the lower part of which shows a map of the North Atlantic Ocean. The whole enclosed in a border of two lines. Above, at right: Columb. Mag. Centre, below: Annual Passage of the Herrings. Size of the steamboat picture, 1 12/16 x 4 1/16. With border, 2 7/16 x 4 3/16. Line engraving.*

From "Columbian Magazine," Dec., 1786. Probably the earliest published picture of a boat successfully propelled by steam in America. Fitch ran this boat (his second) under her own power on the Delaware River, at Philadelphia, on August 22, 1787.

659. *STEAM BOAT | FIG. 1. | Steam Boat invented by John Fitch. Right: Engraved by J. Yeager.*

On "Plate DX, No. II," from the "New Edinburgh Encyclopædia," American edition.

- 660.* *Plan of Mr. Fitch's Steam Boat. Centre, above: FROM THE COLUMBIAN MAGAZINE, 1786. At the top of a folio sheet, the lower part of which contains a facsimile of Fitch's letter of Dec. 25, 1790, in which he says, "I have given my Country a most Valuable Discovery..." 1 3/4 x 4 1/8. Lithograph. About 1845.*

- 660 1/2. *ORIGIN OF STEAM NAVIGATION. | "HONOR TO WHOM HONOR IS DUE." | A VIEW OF COLLECT POND AND ITS VICINITY, | in the City of New York in 1793, | on which Pond the first boat propelled by paddle wheels and screw-propellers, constructed by John Fitch, six years before Robert Fulton made trial of his boat upon the River Seine, in France, and ten years prior to his putting into operation his boat "Clermont" in New York; with a representation of the boat and its machinery on the Collect pond. | BY JOHN HUTCHINGS . . . 1846. Left: DRAWN & LITH. BY J. PENNIMAN, 80 1/2 CANAL ST. N. Y.; centre, above title: Entered . . . 1846; right: F. MICHELIN'S LITH., 111 NASSAU ST. Border of six lines. 15 1/2 x 23 1/2; to border line, 15 13/16 x 23 13/16. Lithograph, colored.*

Map of Collect Pond in centre; to left, an account of Fitch and testimonials to the character of Hutchings, etc.; to right, account of meeting of Fulton, Livingston and Fitch; in upper corners and centre below, four pictures of Fitch's boats.

- 661.* *"HONOR TO WHOM HONOR IS DUE" | ORIGIN OF STEAM NAVIGATION . . . Large folio broadside, with Fitch's screw propeller of 1796 in upper left corner, his 12-oared boat of 1786-7 in the upper right corner, his model boat of 1797-8 at bottom, and a map of Collect Pond and Vicinity in centre. Bottom: THE WORLD IS INDEBT-*

ts, Robert Fulton, cont'd.

FOR THE ORIGINAL IDEA AND TO THE MECHANICAL GENIUS OF JOHN FITCH, OF EAST WINDSOR, CONN. | d to the perseverance and indefatigable attention to the use of steam of Robert Fulton q. Pa. . . . Below: Entered according to act Congress in the year 1846 by John Hutchings . . . N. Y. Size, to border, 14 x 18 1/16. thograph.

a rest of the broadside is occupied by a long printed caption of Fitch's steam propeller of 1796. sed on the preceding; title at top instead of bottom only three boats shown.

e 12-oared boat is here called *John Fitch's First Boat* erance; it is his second boat and is not the "Per- uance." This picture of this boat is reproduced from Columbian Magazine print of 1786.

. Same. EM. 13292 to 13294.

* **FITCH'S STEAMBOAT.** In a border three lines, two of which are below title. 5/16 x 4; with border, 3 5/16 x 5. Wood engraving. About 1845-50.

ie of the first prints to supply the smoke stack, over- ed by many early artists because the original Colum- Magazine picture omitted it.

* **THE SECOND EXPERIMENTAL BOAT OF JOHN FITCH.** | *Finished in May, 1787, and run at the rate of four miles per hour on the Delaware. Cylinder | twelve inches in diameter, stroke three feet.* Lower left corner: W. ORR N. Y. Vign. 1 11/16 x 3 13/16. Wood engraving.

ith smoke stack. om "Eighty Years' Progress of the United States," 2, N. Y., 1861, p. 226.

. **FITCH'S STEAMBOAT.** Vign. 2 3/8 x 4. Wood engraving. About 1850?

* **THE FIRST EXPERIMENTAL BOAT OF JOHN FITCH.** 2 3/16 x 4 10/16. Wood engraving. About 1855-60.

ne printed inscription is an error. Really his second t. Has the smoke stack.

. **FITCH'S STEAMBOAT.** | *On the Delaware River, opposite Philadelphia.* Left: *Designed by Reigart;* right: *L. N. Rosenthal's lith. Philada.* 4 3/8 x 7 3/4. Lithograph in one nt.

om J. F. Reigart's "Life of Robert Fulton," Phila., , oppos. p. 152.

* **Fig. 92.—Le premier bateau à vapeur américain.** *Expérience faite en 1789 par John Fitch, près de Philadelphie, | sur la Delaware.* Lower left corner: U. PARENT; lower right corner: E. DESCHAMPS. Below, left: *Corcail, Créte et Fils, imp.;* right: *Furne, Jouet et Cie, édit.* 5 1/2 x 4 1/8. Wood engraving.

. *John Fitch's Second Experimental Boat, 1787; Oliver Evans' Orukter Amphibolis; Fitch's First Passenger Steamboat, 1789; Ful- ton's First Successful Steamboat; John Fitch's First Propeller; Machinery of Fulton's Steam- boat.* The whole in a border of one line. Size, to border, 7 7/8 x 11 5/16.

om J. L. Ringwalt's "Development of Transportation tems in the U. S.," Phila., 1868.

* *Cylinder, Condenser, and Air-pump of Fitch's Steam-boat.* | [From the original drawing in the Philadelphia Library.] 3 3/4 x 1 15/16.

Wood engraving. From Westcott's Life of Fitch, 1857.

One of Fitch's early ideas for part of a steam-boat engine.

670.* **THE FIRST PASSENGER STEAM-BOAT.** | *(The second experimental boat of John Fitch, finished in May, 1787, rate four miles per hour on | the Delaware. This is believed to be the first boat navigated by steam. In 1789, Fitch completed the | first steamboat, rate 8 miles per hour.)* 2 3/4 x 4 10/16. Wood engraving. About 1860.

Fitch's third boat finished in 1788. Brissot de Warville describes the boat and its working under date of Sept. 1, 1788, in his "Journey," (Paris, 1791.) During the summer of 1790 the boat made about 81 trips. The New York Magazine for 1790 (p. 493) said, "Fitch's steamboat really performs to a charm."

671.* **THE FIRST STEAMBOAT EVER BUILT TO CARRY PASSENGERS.** | *Constructed by John Fitch, and finished April 16, 1798. Cylinder eighteen inches in diameter, | speed eight miles per hour in smooth water. The following year this boat was run to Bur- lington | regularly as a passenger boat.* Vign. 1 7/8 x 3 3/4. Wood engraving.

The dates on the print are incorrect. See note after preceding item.

From "Eighty years' progress of the United States," vol. 2, N. Y., 1861., p. 226.

672.* Three diagrams showing the style of boiler and furnace designed by Fitch and Voight and used by Fitch in his passenger boat of 1788-1790. Titles: *Section of Pipe Boiler; Section of Pipe Boiler; In its Furnace.* Small wood engravings, from Westcott's Life of Fitch, 1857.

673.* **THE FIRST PROPELLER EVER BUILT.** | *Constructed by John Fitch, and experimented with by him on the Collect pond, New York City. | The boiler was a twelve gallon pot, with a bit of truck-plank fastened by an iron bar placed transversely. | This was in the year 1796.* Vign. 2 3/16 x 3 10/16. Wood engraving.

From "Eighty years' progress of the U. S.," vol. 2, N. Y., 1861, p. 235.

Fitch's fifth boat. His fourth was the "Perseverance."

674. "First Steamboat": title in pencil at centre. Right: **LOSSING BARRITT.** Vignette. 1 3/4 x 4 5/8. Wood engraving.

675.* *Fitch's Model Steamboat, Bardstown, Ken- tucky, 1797-8.* 1 7/16 x 2. Wood engraving.

From Westcott's "Life of Fitch," 1857, p. 368.

Fitch's sixth and last boat. It was simply a working model, about three feet long, run by paddle wheels. Fitch used it just before he died, in a creek near Bardstown.

676. *Fitch's last Model | for a River Steam Engine | in the Possession of the Merchantile Library of St. Louis.* In the centre of a small folio sheet, with Pl. XLII in the upper right corner, containing also the facsimile of a letter written by Fitch Feb. 21, 1784. 6 10/16 x 5 9/16. Lithograph. About 1840-45. EM. 13295.

677.* **THE GRAVE OF JOHN FITCH, BARDSTOWN, KY.** In lower right corner: **BAXTER—HARLEY.** Vign. 3 3/8 x 4 5/8. Wood engraving.

From "Life of Fitch," by Westcott, Phila., 1857.

Prints, Robert Fulton, cont'd.

678. **JAMES RUMSEY'S STEAM BOATS, 6TH NOV. 1788; JOHN FITCH'S STEAM BOAT, DEC. 1787** | See *Rittenhouse's Certificate*, page 1075; **ROBT. FULTON'S STEAM BOAT, THE NORTH RIVER or CLERMONT, 1807** | From a Sketch by Joseph Dyer Publ. in *Woodcroft's origin and progress of Steam Navigation*. Right: Engraved & Printed by Gavitt & Duthie. Line engraving.

Frontispiece to the reprint of Rumsey's pamphlet of 1788, as contained in O'Callaghan's "The Documentary History of the State of New York," Albany, 1849; vol. 2, p. 1009.

679.* **Jas. Rumsey's Steam-boat—English patent.** 1 3/16 x 3 7/16. Wood engraving.

From Westcott's "Life of Fitch," 1857. Rumsey, a Virginian, abandoned the American field to Fitch after their pamphlet controversy in 1788, went to England and got a patent there in that year. He died just as a boat was nearing completion. It was finished by his partner in 1798.

680.* **Rumsey's Steam-boat—English patent.** 1 1/16 x 3 3/16. Wood engraving.

From Westcott's "Life of Fitch," 1857. Rumsey's plan for propelling a boat by forcing a jet of water from the stern had been previously proposed to the Pennsylvania Assembly, in 1776, by Arthur Donaldson. Benjamin Franklin also suggested it (see Sparks' "Life," vol. 6, p. 468).

681.* **James Rumsey's Steam-boat, Virginia, 1788.** 1 1/8 x 2 9/16. Wood engraving. From Westcott's *Life of Fitch*, 1857.

682.* **Patrick Miller's Triple Vessel, 1787.** (From *Woodcroft's Steam navigation*.) Side elevation above and deck plan below. Border of one line. To border, 4 x 6 1/2. Half-tone.

This boat in the experiments of 1787 was propelled by two paddle wheels, each of which was turned by two men. The trial was made in the Frith of Forth, in the spring of 1787. James Taylor proposed to Miller (or Millar) the application of steam to the wheels.

683.* **Double Pleasure Boat, Miller, Taylor and Symington, 1788.** (From *Woodcroft's Steam Navigation*.) 2 1/16 x 4 1/16. Half-tone.

The outcome of Taylor's suggestion to Miller. It was operated on the Lake of Dalswinton, in October, 1788.

684.* **Fig. 89.—Experience de Miller, Taylor et Symington faite, en 1789, sur la pièce d'eau de la terre de Dalswinton (page 171).** Lower left corner: U. PARENT; lower right corner: E. DESCHAMPS. Left: Corbeil, Crété et Fils. imp.; right: Furne, Jouvet et Cie., édit. 4 1/16 x 5 1/2. Wood engraving. About 1865-70.

Second steamboat of the three British inventors. On Dec. 26, 1789, the boat was operated on the Great Canal, in Scotland.

685.* **Fig. 90.—Mecanisme moteur du bateau à vapeur de Miller, Taylor et Symington.** 3 13/16 x 4 13/16. Wood engraving. About 1865-70.

The engine used in the boat of 1789. Designed by Symington.

686.* **The Charlotte Dundas, Wm. Symington, 1803.** (From *Woodcroft's Steam Navigation*.) Above, a broadside view of the boat under way; beneath, a longitudinal section of hull and machinery. Size of upper view: 2 x 4 1/16; of lower view: 2 1/4 x 4 13/16. Half-tone.

On the Forth and Clyde Canal, in March, 1802, this stern-wheel boat of Symington's towed two other boats, a distance of 19 1/2 miles, in 6 hours, against a head wind. Without a tow she ran at 6 miles an hour.

687.* An original drawing, colored, of the deck plan of a paddle-wheel steamboat, on a sheet of paper watermarked "Whatman 1801." 7 x 14 1/4. Size of sheet, 14 10/16 x 21 1/4.

The first of a series of three drawings, evidently by the same inventor. The forward third of the boat is almost an equilateral triangle. The paddle-wheels are protected front and beneath, and attached to an axle. The inventor has written, to the right and beneath his drawing, profuse pencil notes and arguments in favor of his "discovery and contrivance."

One of the earliest known drawings of a steamboat. The boat was intended to navigate on Chesapeake Bay and the Susquehanna river, and to be used as an aid in opening the Genesee country, in New York state, to settlement. About 1801-1805.

688.* An original drawing, colored, of the deck plan of a paddle wheel steamboat. The revised plan of the inventor whose work is shown in the preceding drawing. Done on a sheet of paper watermarked "Whatman 1801." With profuse explanatory manuscript notes, originally written in pencil, and traced over in ink. The bow of the vessel is now curved. A furled awning is shown toward the stern. 6 1/8 x 15 3/4. Size of sheet, 14 10/16 x 21 1/4.

Above the drawing the inventor has written the words, "The Genesee steam packet."

689.* An original drawing, colored, of a paddle-wheel steamboat, showing a side view of the vessel. The third plan of the unknown inventor whose work is shown in the two preceding drawings. Centre, in pencil: "This being the first steam packet we will call her the lad of the lakes or Washington or the Genesee and Baltimore packet. The vessel has one smoke stack, and a mast surmounted by a large lantern. The machinery is covered. Above and below the drawing are legible explanatory notes, written in pencil and over-traced in ink. Size of drawing: 4 x 20. Size of sheet, 15 x 21 9/16.

690.* **SCREW PROPELLER, BEING THE FIRST FERRY-BOAT | RUN FROM HOBOKEN TO NEW YORK—BUILT BY | JOHN STEVENS, v804.** 1 1/2 x 2 6/16. Wood engraving. About 1871.

691.* **TWO-SCREW PROPELLER, BEING THE SECOND FERRY-BOAT | RUN FROM HOBOKEN TO NEW YORK—BUILT BY JOHN | STEVENS, 1805.** 1 9/16 x 2 3/4. Wood engraving. About 1871.

692. **OLIVER EVANS.** Bust; directed and facing right, looking front; hands on cane. About 1840. Vign. 3 1/2 x 2 3/4. Wood engraving.

a. As described.

b. With border of two lines. Size to border, 6 10/16 x 4 1/4.

693.* **OLIVER EVANS. | THE WATT OF AMERICA.** Centre, above title: *Engd. by W. G. Jackman*; centre, below: *New York. D. Appleton & Co.* Border of two lines 6 x 4 1/4; to border, 6 1/8 x 4 6/16. Line engraving.

694.* **THE FIRST AMERICAN LOCOMOTIVE, | Or, Evan's "Eructor Amphibolis."** Border of three lines, two of which are below title. 2 1/8 x 3 11/16; to border, 3 5/16 x 5. Wood engraving. About 1850.

The Eructor was properly a boat used for dredging, its

Prints, Robert Fulton, cont'd.

use as a land vehicle on wheels being an afterthought. It steamed 16 miles on the Delaware and Schuylkill rivers, at Philadelphia, in 1804. The engine was the second successful one built by Evans.

a. As described.

b. Without border and with this inscription: **OLIVER EVANS "ORUCTOR AMPHIBOLIS, OR AMPHIBIOUS DIGGER. | THE FIRST AMERICAN LOCOMOTIVE.—1804.**

695.* *The Eructor Amphibolis. Oliver Evans, Philadelphia, 1804.* In lower left corner: **BAXTER & HARLEY. 2 x 3 3/16.** Wood engraving.

From Westcott's "Life of Fitch," 1857, p. 381.

696. **OLIVER EVAN'S ORKUTER AMPHIBOLUS | Thirty feet long and twelve broad. Cylinder five inches in diameter with a nineteen inch stroke. | Constructed by Oliver Evans about the year 1804.** Wood engraving by **LONGACRE. Vign. 1 15/16 x 3 5/8.**

In "Eighty years' progress of the United States," N. Y., 1861, p. 235.

Types of Hudson River and New York City Boats subsequent to Fulton.

See also Nos. 19 1/2, 397, 435, 441, 472, 483, 491, 505, 511, 566, 569.

697.* A view of a paddle wheel steamboat passing the Palisades. 1 1/4 x 2 1/8. Water color drawing, unsigned. About 1825.

A copy of no. 347. The boat bears some resemblance to the Chancellor Livingston, and may be intended to represent that vessel.

698.* **NORTH RIVER STEAM BOAT and SAFETY BARGE.** Left: *Swett*; right: *Lith. of Pendleton.* 3 3/4 x 6 3/16. Lithograph. N. Y., about 1825.

Shows steamboat "Commerce" towing the barge "Lady Clinton" past the Palisades. The use of safety barges for passengers was due to many explosions on earlier boats. The "Commerce" left the foot of Cortlandt street for Albany on Tuesdays, Thursdays and Saturdays.

699. *Steamboat with Safety Barge attached, running on the Hudson in 1826; Fast Steamboat Plying on the Hudson in 1837.* On plate with three other pictures of steamboats.

From J. L. Ringwalt's "Development of transportation systems in the U. S.," Phila., 1888.

700.* **"THE OLIVER ELLSWORTH" BUILT IN 1824—ESCORT AT OPENING OF ERIE CANAL. | This was one of the first steamboats to have a large iron boiler—It exploded in 1827, causing much | excitement—The legislature was in session in Connecticut, and the post-rider leaped from his | lathered horse and broke into the assembly hall shouting: "The Oliver Ellsworth biled her buster!"** In lower right corner, *Copyright 1906, C. S. Bullock.* 3 1/4 x 4 3/4. Half-tone from a drawing.

701.* Picture of an unnamed side-wheel steamboat of about 1820-25, with two smoke stacks, partially exposed machinery, bowsprit and a roof over the main deck. Drawn, engraved and published by Alexander Robb of Philadelphia about 1830. 3 3/4 x 6 14/16. Woodcut.

Robb's proof copy, from his collection.

702.* [Picture of the two Hudson River steamboats "North America" and "Albany."] *Richardson Sc.*, in lower right corner. 2 1/4 x 5 3/16. Wood engraving.

These boats were prominent about 1830.

703.* [Picture of the Hudson River steamboat "Champlaine" or "Eric."] 4 15/16 x 8 9/16. Wood engraving. Drawn, engraved and printed by Alexander Robb, of Philadelphia, about 1832-1835. Robb's proof copy, from his collection.

The two boats named were sister vessels, built in 1832. See also no. 397.

703 1/2. Steamboat going to the right. **DEWITT CLINTON** on paddle-wheel box, **DEWITT NTON** [reversed] on flag at stern. Right: **Hall S: 3 7/16 x 7 3/8.** Wood engraving. In a scrap book of engravings on wood by John H. Hall.

704. *A Hudson River Pioneer (Plate No. 2).* Diameter 3 inches. Half-tone reproduction of an old China dinner plate.

From "The Four-Track News," Nov., 1902, p. 188. Numerous pieces of china were made between 1815 and 1850 which showed similar boats and scenes.

705.* Title, above: **STEAM BOAT SWALLOW, PLYING ON THE RIVER HUDSON, PLATE IV.** Centre, below: *Stevenson's Sketch of the Civil Engineering of North America. Published by John Weale, 59, High Holborn, 1838. Left: James Andrews, Del.; right: Geo. Aikman, Sculpt.* 4 1/4 x 8 1/16. Line engraving.

The "Swallow" was the longest boat yet built—length 283 feet.

706.* Title, above: **NEW-YORK, ALBANY AND TROY STEAMBOAT LINE.** Below, a wood engraving of the Hudson River steamboat "Troy," 1 5/16 x 4, and a schedule of the trips of the boats "Troy," "Empire," "Albany" and "Swallow." An advertising handbill printed about 1837.

707.* Picture of the Hudson River steamboat "Alida," on the title-page of a piece of sheet-music: **"THE ALIDA WALTZ."** At bottom, in centre: **"PUBLISHED BY FIRTH POND & CO. NO. 1 FRANKLIN SQ.** Entered according to act of Congress in the year 1847. **G. & W. ENDICOTT LITH. N. Y."** 4 3/16 x 7 7/16. Lithograph.

Shows the boat passing through the Highlands. The "Alida" was 286 feet long, with paddle wheels 33 feet in diameter.

708.* A Hudson River steamboat, run by propellers, on an advertising handbill bearing the title: **NEW LINE OF IRON STEAM PROPELLERS, BETWEEN ALBANY AND PHILADELPHIA, etc.** 1 11/16 x 2 9/16. Wood engraving. About 1840-45.

This was the first line to put screw-propelled vessels into regular use in America. Its first boat, 70 feet long, was built in England by Ericsson, and her captain, in 1839, was given the freedom of the City of New York for bringing her across the ocean with a crew of five men.

709.* A wash drawing of the Hudson River steamboat "Atlantic," passing through the Highlands. 5 15/16 x 10. Unsigned. Done about 1845-50.

710.* **STEAM-BOAT IRON WITCH. BUILT AT NEW YORK, AFTER THE DESIGN**

Prints, Robert Fulton, cont'd.

OF CAPTAIN ERICSSON. W. ROBERTS, SC. in lower left corner. $1\frac{1}{4} \times 5\frac{1}{16}$. Wood engraving. About 1855.

711. A Hudson river Catamaran steamboat. On pennant the name **TROY**. $3\frac{1}{2} \times 7\frac{1}{16}$. Wood engraving.

From the *Journal of Commerce*, N. Y. (N. Y.), Jan. 17, 1884, with a descriptive article, "In the new era of steam power." Copied from the *Mechanics Magazine*.

712. * STEAM CATAMARAN—H. W. LONG-FELLOW. Left: **PUBLISHED BY CURRIER & IVES**. Right: **115 NASSAU ST: NEW YORK**. $8\frac{1}{2} \times 13\frac{1}{16}$. Lithograph, colored.

Boats of this type were occasionally tried on the Hudson from about 1835 until about 40 years thereafter.

713. CATAMARAN FOR FAST PASSENGER TRAVEL ON THE HUDSON, NOW IN COURSE OF CONSTRUCTION AT NYACK, N. Y. At top, under diagram, **Lower Deck Plan**. $8\frac{1}{2} \times 12\frac{1}{16}$. Photo-mechanical reproduction.

From the "Daily Graphic," N. Y., 187--.

714. * EXPLOSION OF THE STEAMER REINDEER, ON THE HUDSON RIVER. In lower left corner: **CHAPIN DEL.** $5 \times 9\frac{1}{16}$. Wood engraving.

715. * DESTRUCTION OF THE STEAMER HENRY CLAY, BY FIRE, ON THE HUDSON RIVER. In lower left corner: **CHAPIN DEL.** $5\frac{1}{2} \times 9\frac{1}{16}$. Wood engraving.

The boat is shown, beached and burning, opposite the Palisades.

716. * The Hudson River steamboat Daniel Drew. In lower right corner, "**T.**" $4\frac{1}{2} \times 13\frac{1}{16}$. Wood engraving. Proof before title.

717. "Hudson River Steamboat, Mary Powell, 1861." $3\frac{3}{4} \times 10\frac{3}{16}$. Pencil drawing by Warren Sheppard, 1907.

718. "N. Y. Harbor boat Sylvan Stream 1863." $2\frac{1}{2} \times 16\frac{1}{16}$. Pencil drawing by Warren Sheppard, 1907.

719. "Hudson River Steamer Albany." $3\frac{1}{2} \times 10\frac{3}{16}$. Pencil drawing by Warren Sheppard, 1907.

720. "Hudson River Towboat Oswego." $3\frac{1}{2} \times 10\frac{3}{16}$. Pencil drawing by Warren Sheppard.

721. * A HUDSON RIVER STEAMBOAT. Lower right corner: **L. JOHNSON & CO.** $2\frac{1}{2} \times 16\frac{1}{16}$. Wood engraving. About 1870.

722. * RUNNING UPON THE SUNKEN MEADOWS. In lower right corner: **F. S. COZZENS**. Top corners arched. $3\frac{1}{2} \times 9\frac{1}{16}$. Wood engraving.

The burning of the Seawanhaka.

723. * "The Magnificent Morse" passing Anthony's Nose. In both upper corners, in monogram, the letters "**P. L.**" $7\frac{1}{2} \times 14\frac{1}{16}$. Half-tone.

724. * The New Steel Steamer "Hendrick Hudson," of the Hudson River Day Line. 10×14 . Half-tone in colors.

Samuel Ward Stanton's "American Steam Vessels," N. Y., 1895, contains pictures of the following Hudson

River steamboats: "Commerce" (1825), "Champlain" (1832), "DeWitt Clinton" (1832), "Highlands" (1835), "Rochester" (1836), "Utica" (1836), towboat "Norwich" (1836), "Albany" (1839), "Troy" (1840), "Rip Van Winkle" (1845), "Thomas Powell" (1845), "Armenia" (1847), "Alida" (1847), towboat "Oswego" (1848), "Francis Skiddy" (1851), "Isaac Newton" (1850), "New World" (1853), "James W. Baldwin" (1860), "Mary Powell" (1861), "St. John" (1863), "Berkshire" (1864), "Dean Richmond" (1865), "Saratoga" (1877), "Albany" (1880), "Kaaterskill" (1882), tugboat "John H. Cordts" (1883), passenger propeller "City of Kingston" (1884), tugboat "Pocahontas" (1884), propeller "Homer Ramsdell" (1887), and "New York" (1887).

Some other types of American Steamboats Subsequent to Fulton.

725. * WALK-IN-THE-WATER. In lower left corner: **S. E. CO.** Upper corners rounded. $3\frac{1}{2} \times 16\frac{1}{16}$. Wood engraving.

The first steamboat built on Lake Erie (at Buffalo, in 1818). She made a round trip from Buffalo to Detroit about every two weeks until wrecked, in 1821. This picture is from a drawing made after the wreck, when her broken keel gave her deck a saucer-like curve.

726. * THE BAY AND RIVER STEAMER "CHARLOTTE," BUILT AT ERNEST-TOWN, U. C., 1818. $2 \times 4\frac{1}{16}$. Wood engraving. About 1850.

One of the earliest Canadian steamboats. With two very tall stacks, a log-cabin shaped after-structure, and pyramid shaped engine covering.

727. * Dampfboot auf dem Mississippi. On the side of the boat the name "**BELVEDERE**." $2\frac{1}{2} \times 16\frac{1}{16}$. Line engraving. Published in Stuttgart in 1842.

The "Belvidere" was an example of all that was dangerous and rickety in early river navigation, and for years her picture was the one used in other countries to represent American steamboats, especially when it was desired to belittle the United States. She was built in Portsmouth, Ohio, in 1825 and fell to pieces, worn out, in 1831. The average life of the boats of her period was from three to four years.

728. * A broadside view of the "Flora." $2\frac{1}{2} \times 16\frac{1}{16}$. Pencil drawing. About 1835.

The "Flora" was built in Pittsburgh in 1835. Her resemblance to the famous "Belvidere" is very noticeable.

729. * Interior of a cabin on an early boat. $4\frac{1}{2} \times 16\frac{1}{16}$. Pencil drawing.

Shows a dining table, flanked by two benches. A lamp is suspended from the ceiling, and a stove stands at one end, in a square basin to prevent coals from igniting the woodwork. The boat was evidently a very small one, without pretensions.

730. * A side-wheel steamboat of about 1825-30, with partially exposed machinery, two smoke stacks and awnings over both forward and after decks. $4\frac{1}{2} \times 16\frac{1}{16}$. Drawn, engraved and published by Alexander Robb. Robb's proof copy, from his collection. About 1835.

731. * A large side-wheel steamboat, with two smoke-stacks and two decks aft. Drawn, engraved and published by Alexander Robb. $3\frac{1}{2} \times 16\frac{1}{16}$. Wood engraving. Robb's proof copy, from his collection. About 1835.

732. * Title, at top: WESTERN WATER STEAM BOAT. PLATE V. Left: *Drawn by James Andrews, from a sketch made on the River Ohio, by David Stevenson;* right: *Geo. Aikman, Sculpt.*; centre, below: *Pub-*

s, *Robert Fulton, cont'd.*

ed by John Weale, 59, High Holborn, 1838
*Levenson's Sketch of the Civic Engineering
 North America.* 4 1/16 x 7 14/16. Line en-
 graving.

A side-wheel walking-beam steamboat.
 the top of a bill of lading, dated March
 1842, with the printed inscription: *MER-
 CHANTS' CANAL LINE. STEAM TOW-
 N* *AT COMPANY. Between New-York and
 Philadelphia, via Delaware and Raritan Canal.*
 gn. 2 3/16 x 7 2/16. Wood engraving.

WM. NORRIS. Left: *LITH. OF ENDI-
 COTT & CO. N. Y.* Top corners arched.
 order of one line. 5 2/16 x 8 4/16; to border,
 9/16 x 8 12/16. Lithograph, one tint. About
 45.

Wm. Norris was a side wheel walking-beam boat,
 two stacks set on a fore-and-aft line.

A screw-propelled steamboat with two
 masts and furled sails, and with the engine
 at the extreme stern of the boat, partly over-
 hanging the water. At the top of a bill of
 lading, dated Sept. 1, 1846, with the printed
 inscription: *MERCHANTS' CANAL LINE
 F* *Iron Steam Propellers, between NEW-
 YORK AND PHILADELPHIA.* Vign. 2 14/16
 3 5/16. Wood engraving.

A side-wheel steamboat. On paddle-box
 the name *BALTIC*. On pennant the word
ROY. Occupying the upper half of title
 page to *THE BALTIC WALTZ*. Below:
E. & W. ENDICOTT LITH. N. YORK.
 9/16 x 8 3/16. Lithograph. New York, 1847.

* The "Confidence," a walking-beam boat.
 6/16 x 7 14/16. Pen-and-ink drawing. About
 345-1850.

flag at the stern bears the word "Express."

* *LOUISVILLE MAIL COMPANY STEAM-
 BOAT JACOB STRADER.* On paddle box:
*INCINNATI AND LOUISVILLE MAIL
 LINE. LOW PRESSURE. JACOB STRADER.*
 15/16 x 9 5/16. Wood engraving. Published
 1 1854.

showing the vessel leaving Cincinnati on her first trip.
 The boat, built in 1854, was the finest western steamer yet
 constructed. She cost \$200,000, and her speed was 18 miles
 per hour. The words "low pressure" were to reassure the
 public against boiler explosions.

* *THE "BAY STATE" AND "EMPIRE
 CITY" STEAM-SHIPS.* Left: *E. LAN-
 DELL.* Above, in centre: *TRAVELLING
 IN THE UNITED STATES.* 5 10/16 x
 7/16. Wood engraving. London, about
 1855-60.

740.* The screw propeller steamboat *Phoenix*,
 the name appearing at the bow, and on a pen-
 nant. One mast is stepped far forward. A
 single smoke-stack is amidships. In lower
 right corner: *RICHARDSON, SC.* 11 x 18 2/16.
 Wood engraving. About 1860-65.

741. *STEAMBOAT FROM NEW ORLEANS
 TO ST. LOUIS, TIME THREE DAYS.*
 2 2/16 x 5 10/16. Wood engraving.

In "Eighty years' progress of the United States,"
 New York, 1861, vol. 182.

742.* *ON THE MISSISSIPPI.* Centre, above
 title: *Drawn & Engraved by J. W. Watts.*
 4 7/16 x 7 7/16. Line engraving. About 1855.
 A race between the steamboats "St. Louis" and "Mis-
 sissippi."

743.* *LUTTE ENTRE DEUX STEAMBOATS.*
 Left: *Ed. Willmann del. & sc.*; right: *Imp.
 Ch. Chardon aîné Paris.* 4 6/16 x 6 11/16.
 Line engraving. About 1870.

A race on the Mississippi between the "Natchez" and
 "Eclipse."

744.* *A RACE ON THE MISSISSIPPI.* Left:
PUBLISHED BY CURRIER & IVES; right:
115 NASSAU ST. NEW YORK; centre, above
 title: *ENTERED ACCORDING TO ACT
 OF CONGRESS IN THE YEAR 1870 BY
 CURRIER & IVES IN...NEW YORK.*
 7 13/16 x 12 8/16. Lithograph, colored.

A race between the "Diana" and the "Eagle." These
 speed contests between rival lines were very common be-
 tween 1850 and 1875, and often resulted in the explosion of
 overtaxed boilers, and loss of life. When announced
 beforehand, many people tried to secure passage on the
 contestants, and very large sums were wagered by the
 public on the results.

745.* *THE GREAT MISSISSIPPI STEAM-
 BOAT RACE. | FROM NEW ORLEANS
 TO ST. LOUIS, JULY 1870. | Between the
 R. E. Lee, Capt. John W. Cannon and Natchez
 Capt. Leathers. | WON BY THE R. E. LEE,
 TIME: 3 DAYS 18 HOURS AND 30 MIN-
 UTES; DISTANCE 1210 MILES.* Left:
PUBLISHED BY CURRIER & IVES; right:
125 NASSAU ST. NEW YORK. Below,
 left: *The Boats left the wharf at New Or-
 leans, June 30th, 1870 at 4.55 P. M. The
 Lee reached the wharf Boat at St. Louis July
 4th. at 11.25 A. M.; below, right: The Nat-
 chez reached the wharf Boat at St. Louis,
 July 4th. at 5.58 P. M., six hours & thirty-
 three min. behind the Lee, having been de-
 tained six hrs. by a Fog at Devils Id.* 8 4/16
 x 12 7/16. Lithograph, colored. 1870.

MAPS AND PLANS.

1. NEW YORK PROVINCE AND STATE.
2. HUDSON RIVER.
3. HUDSON RIVER COUNTIES, CITIES, ETC.

NEW YORK PROVINCE AND STATE.

The arrangement is chronological.

Facsimile of a Map found 1841 in the Loket Kas of the States General in the Royal Archives at the Hague; referred to, in 1616, in memorial of discoveries of Schipper Cornelis Hendrickssen. Lithographed from the original map deposited by J. Romeyn Brodhead in the office of the Secy. of State at Albany. [See following notes.] 17 x 20 inches: *Scale*: about 46 miles to inch. The original "Carte Figurative" of which the foregoing description is a facsimile, was annexed to the Memorial presented to the States-General on the 18th August, 1616, by the "Directors of New Netherland," praying for a special Octroy, according to the Placaat of 27th March, 1614, and is referred to in the Memorial as shewing the extent of the discoveries made by Schipper Hendrickson of Munnichendam, in a small yacht of 8 lasts (16 tons) burthen, named the "Onrust" (The Restless) which the Memorialists had caused to be built in New Netherland: signed J. Romeyn Brodhead Agent of the State of New York, &c.

Map of Reunselaer's Wyck [together with facsimile signatures of Dutch Officials connected with the affairs of the New Netherlands.] 1630: facsimile. *New York*: G. & W. Endicott: [no date given]. 24 x 19 inches. *Scale* [not given]. Lithograph.

Nova Anglia, Novvm Belgivm et Virginia. [Leyden, 1630.] *Size*: 14 x 11 inches. *Scale*: 60 Milliaria Germanica=2.5 inches+. Copper.

In Joannes de Laet's "Beschrijvinghe van West-Indien," 2. ed., Leyden: Elseviers, 1630.

Kaart van Nieuw Nederland, behoorende tot de, door het Provinciaal Utrechtsch Genootschap, bekroonde verhandeling van R. G. Bennet en J. van Wyk, Reg. Dordrecht: I. de Vosges, [1637?] *Size within border*: 18½ x 17¾ inches. *Scale*: 21 miles=1 inch. Lithograph. Plain.

[Facsimile Copy of Visscher's Map of New England entitled] Novi Belgii. Tabula ad N. J. Visscher delineationem repetita quæ ex... aliis tabulis colligi potuerant additis lapidi incisa dirigenti. 1655. [No place of publication given.] S. M. Asher, 1855. *Size*: 21 x 18 inches. *Scale*: 35 miles to inch. Lithograph. Plain.

Map of New Netherlands. With a view of New Amsterdam (now New York) A.D. 1656. Copied from Van der Donck's Map. *New York*: D. T. Valentine, 1852. *Size*: 7 x 11¾ inches. *Scale*: n. s. Lithographed. Plain.

Nova Belgica et Anglia nova. [Map full of animals, ships, boats, natives and two children bear-

ing up scale.] [Amstelodami: G. Blaeer], [1658?] *Size*: 19 x 14¼ inches. *Scale*: about 50 miles=1 inch. Engraved on copper; colored by hand.

Pas caarte van Nieuw Nederlandt uytgegeven door Hendrick Doncker. Amsterdam: [no publisher given.] [1659?]. 25 x 21½ inches. *Scale*: 28 miles to inch. Copperplate; handcolored.

[Facsimile.] Carta particolare della nuova Belgia è parte della nuova Anglia. La Ion gikidiæ Cominea da l'Isola di Pico d'Asores. Æ'Lucini Fice. [1660?]. *Size*: 14 x 17½ inches. *Scale*: 42 miles=1 inch. Pease lith. Albany. Plain.

A Map of New England and New York. London: Thomas Basset: [1666]. *Size*: 19¼ x 14¼ inch. *Scale*: 40 miles=1 inch.

Novi Belgii quodnunc Novi Yorck vocativo Novequæ Angliæ & Partis Virginie. accuratissima et Novissima delineatio. [Amsterdam: Jacob von Meurs? 1673?] *Size*: 14¼ x 11½ inches. *Scale*: about 56 miles=1 inch. Engraved on copper. Plain.

Pas caarte van Nieu Nederlandt en de Engelsche Virginies von Cabo Cod tot Cabo Caurick. Amsterdam: Peter Goos, 1676?] 20 x 17 inches. *Scale*: 30 miles to inch. Copperplate. Plain.

Belgii Novi, Angliæ Novæ, et partis Virginie Novissima delineatio. Apud Petrum Schenck et Girardum Valck. Amstelodami [no publisher given] [1690?] *Size*: 19½ x 16½ inches. *Scale*: 40 miles to inch. Copperplate; colored by hand.

An Exact Mapp of New England and New York. [London, 1702.] *Size*: 15 x 12½ inches. *Scale*: 60 miles=3¾ inches+. Copper.

In Mather's Magnalia, London, 1702.

Map of Livingston Manor Anno 1714... John Beatty Dep. Surv'r. [facsimile of copy] [with 14 lines descriptive of the boundaries]. [Albany: J. E. Gavitt? 185-?] *Size*: 10¾ x 6¾ inches. *Scale*: n. s. Engraved and printed by J. E. Gavitt, Albany. Plain.

New England, New York, New Jersey and Pennsylvania. By H. Mole, Geographer. No. 49. [London: Bowles?] [1730?] *Size*: 10¼ x 7¾ inches. *Scale*: 69 miles=1 inch. Engraved on copper, colored by hand.

The Southern Part of the Province of New York: with part of the adjoining Colonies. By Thos. Kitchin Senr. Hydrogr. to His Majesty. London [no publisher given] [1750?] *Size within border*: 6¾ x 9¾ inches. *Scale*: 18½ miles=1 inch. Engraved on copper. Plain.

A Map of the Eastern part of the Province of New York, with part of New Jersey... By T. Kitchin, Geogr. Engrav'd for the London Mag.

Maps of New York Province and State, cont'd.

London: R. Baldwin, 1756. Size: 8 x 6½ inches. Scale: 47 miles=1 inch. Engraved on copper. Plain.

A MSS. Map of British North America showing the Distribution of His Majesty's forces... 29th March 1766 by Danl. Paterson Assist. Qr. Mast. Genl. *Size: 24½ x 20 inches. Scale: 100 miles=1 inch. Pen & ink & brush; colored by hand.*

A Map of the Manor of Rensselaerwick surveyed and laid down by... by Jno. R. Bleecker, Surveyor, 1767... Copied from the original in the possession of Genl. Stephen Van Rensselaer by D. Vaughan. [*Albany: J. E. Gavit? 185-?*] *Size: 20½ x 14½ inches. Scale: about 2½ miles=1 inch. Engraved & printed by J. E. Gavit. Plain.*

Map of 2000 acres granted to Ross and 2000 acres to Goldthwaite. Note. These lands lie 6 miles west of Fort George and within a mile of the North Branch of Hudson's River, and about 4½ miles of the northwest corner of Queensbury. [No place and publisher given.] 1775. *Size within border: 20½ inches x 14½ inches. Scale: 1 mile to the inch. Manuscript. Plain.*

Map of the Progress of his Majesty's Armies in New York, During the late Campaign Illustrating the Accounts Publish'd in the London Gazette. [*London, 1776.*] *Size within border: 12¼ x 7½. Scale: 5 miles=1 inch. Engraved on copper. Plain.*

Part of the Counties of Charlotte and Albany, in the Province of New York: being the Seat of War between the King's Forces under Lt. Gen. Burgoyne and the Rebel Army. By Thos. Kitchin, Senr. *London: [No publisher given.] 1777? Size: 6¾ x 9½ inch. Scale: About 10 miles=1 inch. Engraved on copper. Plain.*

An atlas of the state of New York... drawn... under the... direction of Simeon De Witt... pursuant to an act of the legislature, and also the physical geography of the state... & statistical tables... *New York: D. H. Burr, 1829. 29 p., 50 l., 51 maps. f°.*

Atlas of New York and vicinity from actual surveys by... F. W. Beers... & others... *New York: Beers, Ellis & Soule, 1867. 2 p.l., 2-62 ff., 5 pl. f°.*

Includes Dutchess County, N. Y.

Atlas of New York and vicinity from actual surveys by... F. W. Beers... & others... *New York: Beers, Ellis & Soule, 1867. 59 ff. f°.*

Pages 40 and 45 each have a duplicate; 22 a, 31 a and 31 b are additional pages. Includes Fairfield County, Conn.

Atlas of New York and vicinity from actual surveys by... F. W. Beers... & others... *New York: Beers, Ellis & Soule, 1868. 72 ff., 3 pl. f°.*

Includes Westchester County, N. Y.

Asher & Adams' new topographical map of the state of New York... *New York: Asher & Adams, [c. 1869.] 2 p.l., 28 p. f°.*

Asher & Adams' new topographical atlas and gazetteer of New York, comprising a topographical view of the several counties of the state, together with a railroad map... including... map of the U. S. and territories... *New York: Asher & Adams [c. 1871]. 56, 60-80 p. f°.*

Combined atlas of the state of New Jersey, and the County of Hudson... *Philadelphia: G. M. Hopkins & Co., 1873. 169 p. f°.*

HUDSON RIVER.

The arrangement is chronological.

1609. The Hudson River (Cahohatatea) at the time of its discovery by Henry Hudson. By Townsend MacCoun... The Indian names are obtained from the Dutch Colonial Records; the deeds and patents of the Van Rensselaer, Schuyler, Livingston, Van Cortlandt, and Philipse families... Copyright 1909... New York.

[Facsimile]. De Noord Rivier anders R Manhattans off Hudson's Rivier Genaamt in t'Groodt. Copied from the original Dutch Map in Verdere Aenteyckeninge of Duplyque 1666? van den Heer George Downis, Middeburgh. *New York: [no publisher named]; 1854. 23 x 6 inches. No scale given. Lithographed in brown ink.*

[The Hudson River from New York to Lake George.] Inset plan of Fort Edward. [*London: Baldwin? 1775?*] *Size: 2¾ x 10 inches. Scale: About 22 miles=1 inch. Engraved on copper. Plain.*

Der Teufels Belt gemeiniglich genannt Der Lange Insel Sund. 17¼ x 8½ inches. *Scale: 30 miles=4¼ inches. Copper. Colored by hand. In: Geographische Belustigungen zur Erläuterung der neuesten Weltgeschichte [Leipzig, 1776].*

Shows the Hudson from the Narrows to the Highlands.

A Topographical Map of Hudson's River... from Sandy Hook... to Fort Edward, also... by Lakes George & Champlain as high as Fort Chambly on Sorel River by C. J. Sauthier. *London: Wm. Faden, 1776. Size: 20¼ x 30 inches. Scale: 4 miles to inch. Copperplate. Colored by hand.*

Map of the Hudson between Sandy Hook and Sandy Hill with the Post Road between New York and Albany... Bridges delt. *New York: A. T. Goodrich & Co., 1820. Size: Each 8½ x 7 inches. Scale: 2 miles=1 inch. Engraved on copper by Rollinson. Plain.*

Carte pour servir à l'Itinéraire pittoresque du Fleuve Hudson et des Parties latérales de l'Amérique du Nord: par J. Milbert. [*Paris: Imprimerie de Bove, 1826. Size: 16 x 19 inches. Scale: 70 miles to inch. Lithograph. Colored by hand.*

A New Map of the Hudson River; the Post Roads between N. York & Albany, the Northern & Western Canals, etc., etc. *Albany: W. Cammeyer, Jr., 1829. Size: 45 x 4¼ inches. Scale: 4 miles to inch. Engraved on copper. Plain.*

Wade & Croome's Panorama of the Hudson River from New York to Albany, drawn from nature. *New York: J. Disturnell, 1846. Size: 143 x 5½ inches. Scale: 1 mile=1 inch. Engraved on copper by William Wade. Plain.*

New map of the Hudson River, 1847. [With text.] *Troy: J. C. Kneeland & Co.'s steam press [1847]. 10½ inches x 2 feet 4 inches.*

Map of the Hudson River Rail Road from New York to Albany. W. C. Moore del. Engraved by Robt. Haering, N. Y. Litho. of G. Snyder,

Maps of Hudson River, cont'd.

N. Y. *New York: G. Snyder*, 1848. *Size*: 152 inches long x 17 wide. *Scale*: 1 mile = 1 inch. Lithographed. Colored by hand.

Map of the Hudson River. [Inset in Joseph Hutchins Colton's "New York."] [*New York?* 1849.] *Size*: 21 x 2 $\frac{3}{4}$ inches. *Scale* not given.

Hudson River. Sheet no. 1 from New York to Haverstraw. A. D. Bache, Supt.

— Another copy. C. P. Patterson, Supt. Verified by J. E. Hilgard. Issued April, 1879.

— Another copy revised to Aug. 1894.

Preliminary Charter of Hudson River. Sheet No. 2 from Haverstraw to Poughkeepsie, New York. A. D. Bache, Suptdt. Verified by J. E. Hilgard. [Muslin 50c.] *Washington: U. S. Coast & Geodetic Survey*, 1861. Engraved on copper. *Size of border*: 17 x 40. *Scale*:* 1.06 = 1 mile. No. 371. *Catalogue* (1887). *Page*: 41.

*Represented either by the length of a degree of the Meridian (D) or by the length of a Nautical Mile (M) in inches or nearest tenth of an inch.

— Later issue. Nov. 1878, C. P. Patterson, Supt., Verified by C. A. Schott. Printed May 2, 1890.

Preliminary Chart of Hudson River, Sheet No. 3, from Poughkeepsie to Troy, New York. . . A. D. Bache, Suptdt. 1863. T. E. Hilgard. Verified. Muslin \$1.00. *Washington: U. S. Coast & Geodetic Survey*, 1863. Engraved on copper. *Size of border*: 19 $\frac{1}{2}$ x 40. *Scale*:* 1.58 = 1 mile. No. 372.

* Represented either by the length of a degree of the Meridian (D) or by the length of a Nautical Mile (M) in inches or nearest tenth of an inch.

Lloyd's topographical map of the Hudson river. . . 1864. *New York: J. T. Lloyd*, 1864. 3 feet 3 inches x 4 feet 6 inches, folded f°. *Scale*: 2 inches = 1 mile.

Map of the Hudson River showing routes to Saratoga, Lake George, etc. [folder printed with ads. dated 1877 at back] *New York: Gaylord Watson*, 1876. *Size*: 5 $\frac{1}{2}$ = 33 $\frac{1}{4}$ inches. *Scale*: n. s. Lithographed, colored by hand.

The Hudson by Daylight Map from New York Bay to the Head of Tide Water. . . *New York: Wm. F. Link*, 1878. *Size within border*: 5 $\frac{3}{8}$ x 100 inches. *Scale*: 1 $\frac{1}{2}$ miles = 1 inch. Lithographed, colored by hand.

Hudson River Front of New York City from the Battery to 68th St. and of New Jersey from Communipaw to Weehawken, from Surveys by D. B. Wainwright, 1835. *Washington: U. S. Coast & Geodetic Survey*, 1886. Lithographed. *Size of border*: 27 x 45. *Scale*:* 6.34 = 1 mile. No. 3041. *Catalogue* (1887). *Page*: 22.

* Represented either by the length of a degree of the Meridian (D) or by the length of a Nautical Mile (M) in inches or nearest tenth of an inch.

Hudson River from 53rd St. N. Y. City to Fort Washington. F. M. Thorne, Superintendent. May 1888. *Washington: U. S. Coast & Geodetic Survey*, 1889. Engraved on copper. *Size of border*: 27 x 40. *Scale*:* 6.34 = 1 mile. No. 3698. *Catalogue* (1890). *Page*: 43.

* Represented either by the length of a degree of the Meridian (D) or by the length of a Nautical Mile (M) in inches or nearest tenth of an inch.

Hudson and East Rivers, from W. 67th St. and Blackwell's Island to Bedloe's Island [misprinted on sheet and in Catalogue as from W. 67 to Blackwell's Island], Jan. 1887. *Washington: U. S. Coast & Geodetic Survey*, 1890. Engraved on copper. *Size of border*: 30 x 45. *Scale*:* 6.34 = 1 mile. No. 3694. *Catalogue* (1890). *Page*: 43.

* Represented either by the length of a degree of the Meridian (D) or by the length of a Nautical Mile (M) in inches or nearest tenth of an inch.

Atlas of the Hudson River valley from New York City to Troy, including a section of about 8 miles in width. . . compiled from official records and. . . surveys. . . under the supervision of F. W. Beers. *New York: Watson & Co.*, 1891. 1 p.l., 36 maps. f°.

Automobile map of Hudson river district. South section. *Boston: Automobile Club of America*, 1906. *Scale*: 1 inch = 2 miles. nar. 8°.

[Map of the lower Hudson.] 4 feet 4 $\frac{3}{4}$ inches x 10 $\frac{1}{2}$ inches, n. p., n. d.

NEW YORK CITY.

For maps of New York City see the list printed in the *Bulletin of the New York Public Library* for February, 1901, volume 5, pages 60-73.

The maps of the counties and cities which follow are arranged geographically, from South to North. The arrangement of each group is chronological.

WESTCHESTER COUNTY.

Atlas of New York and vicinity from actual surveys by. . . F. W. Beers. . . and others. . . *New York: Beers, Ellis & Soule*, 1868. 72 ff., 3 pl. f°.

Includes Westchester County, N. Y.

[The Hudson River from Fort Constitution to Dobb's Ferry, 1870?]. *Size within border*: 2 x 3 inches. *Scale*: 5 miles = 1 inch? Lithographed. Plain.

County atlas of Westchester, New York. . . *New York: J. B. Beers & Co.*, 1872. 80 pp., f°.

East Side of the Hudson River from Croton to Peekskill, N. Y. Topography executed during the Field season of 1877 and part of 1878. Carlisle P. Patterson, Suptdt. . . Price \$1.00. Planetable Sheet No. 1472. *Washington: U. S. Coast & Geodetic Survey* [1878?]. Lithographed. *Size of border*: 27 x 51. *Scale*: about 6 inches = 1 mile. No. 3303. *Catalogue*: (1887). *Page*: 21.

Atlas of Westchester county, New York. . . *New York: G. W. & W. S. Bromley*, 1881. 155 p. f°.

Atlas of the City of Yonkers, New York. From. . . surveys. . . by. . . Pidgeon. . . *New York: E. Robinson*, 1889. 3 l., 25 pl. f°.

STONY POINT.

A Plan of the Surprise of Stoney Point, by a detachment of the American Army. . . Brig. Genl. Wayne. . . 15th July, 1779, also of works. . . on Verplank's Point. . . by John Hills. *London: W. Faden*, 1784. *Size*: 26 $\frac{3}{4}$ x 19 inches. *Scale*: n. s. (very large). Engraved on copper. Colored by hand.

— Facsimile published at Morrisania by H. B. Dawson in 1863. 13 $\frac{1}{2}$ x 9 $\frac{1}{2}$ inches. Lithograph, hand colored.

Plans of Stony Point, cont'd.

Stony Point and Verplanck's Point. [*New York: Harper and Brothers, 1859.*] *Size:* $4\frac{3}{4} \times 2\frac{1}{2}$ inches. *Scale:* $\frac{1}{4}$ mile to an inch. Wood engraving. Plain. Paper, mounted on paper. With views, etc., and text.

Also in Lossing's *Field Book of the Revolution*, vol. 1 (N. Y., 1859), p. 743.

FORT MONTGOMERY.

A Plan of Fort Montgomery and Fort Clinton, taken by his Majesty's Forces, under the Command of Majr. Genl. Sir Henry Clinton, K: B: Survey'd by Major Holland, Survr. Genl. &c. [With an inset:] Part of Hudsons River, Shewing the position of Fort Montgomery and Fort Clinton, with the Chevaux de Frieze, Cables, Chains, &c. to obstruct the Passage of his Majesty's Forces up the River. by Lieutt. John Knight of the Royal Navy, in 1777. [*London:*] *J. F. W. Des Barres, 1779.* *Size:* $29\frac{3}{8} \times 19\frac{1}{8}$ inches. *Scale:* 500 yards to an inch. Copperplate engraving. Colored. Paper, on linen, to fold.

Plan of the Attack of the Forts Clinton and Montgomery upon Hudsons River... Sir Henry Clinton K. B. on 6th Oct. 1777. drawn... by John Hills... *London: Wm. Faden, 1784.* *Size:* $19\frac{1}{2} \times 25\frac{1}{2}$ inches. *Scale:* $2\frac{3}{4}$ inches = 1 mile. Engraved on copper. Colored by hand.

Fort Clinton and Montgomery, N.Y. In Leake's Life of John Lamb, Albany, 1850. P. 176. *Size within border:* $5 \times 8\frac{3}{4}$ inches. *Scale* not given.

Plan of the Attack on Forts Clinton and Montgomery by the British forces under Sir Henry Clinton. . Oct. 1777. Reduced from the British Map. *New York: G. P. Putnam & Co. [1855].* *Size within border:* $6\frac{3}{4} \times 8\frac{1}{2}$ inches. *Scale:* n. s. Engraved on stone by Sarony & Co. Plain.

Attack on Forts Clinton and Montgomery. [*Boston: Little, Brown & Co., 1855.*] *Size:* $4\frac{1}{2} \times 7$ inches. *Scale:* n. s. Engraved on copper by G. W. Boynton. Plain.

Plan of the attack of Forts Clinton & Montgomery. [Below:] View from Peekskill Landing. [*New York: Harper and Brothers, 1859.*] *Size:* $3\frac{3}{4} \times 3\frac{3}{4}$ inches. *Scale:* $2\frac{1}{2}$ miles to an inch. Wood engraving. Plain. Paper, mounted on paper.

Also in Lossing's *Field Book of the Revolution*, vol. 1 (N. Y., 1859), p. 734.

ORANGE COUNTY.

Hudson River from Newburgh to Rhinebeck Landing. [1840?] *Size:* $16\frac{1}{4} \times 7\frac{3}{4}$ inches. *Scale:* about 2 miles = 1 inch. Engraved on copper? Plain.

County atlas of Orange, New York. From actual surveys by... F. W. Beers... *Chicago: Andreas, Baskin & Burr, 1875.* 157 [i.e. 161] pp. f°.

Atlas of Orange county, New York. Compiled and drawn from official records, public and private plans and actual surveys by J. M. Lathrop and others. *Philadelphia: A. H. Mueller & Co., 1903.* 2 p.l., 47 maps. f°.

DUTCHESS COUNTY.

Atlas of New York and vicinity from actual surveys by... F. W. Beers... & others... *New York: Beers, Ellis & Soule, 1867.* 2 p.l., 2-62 ff., 5 pl. f°.

Includes Dutchess county, N. Y.

New illustrated atlas of Dutchess county, N. Y. Compiled and drawn from personal examinations, surveys and under the personal supervision of C. W. Gray & Son and F. A. Davis, and published under the superintendence of H. L. Kochersperger... [With Supplement Atlas of the world, and... Patron's directory. *Reading: A. M. Davis, Succ. to F. A. Davis & Co., 1876.* 71 p., 3 l., 9-37. iv p. f°.

KINGSTON.

Kingstone [Fort at] [with 8 references]. [*London: Thos. Rodd, 1843?*] *Size:* $7\frac{1}{2} \times 6$ inches. *Scale:* n. s. Lithographed. Plain.

GREENE COUNTY.

Atlas of Greene county, New York: from... surveys by... F. W. Beers... & others... *New York: Beers, Ellis & Soule, 1867.* 21 p., 1 pl. f°.

COLUMBIA COUNTY.

Atlas of Columbia county, New York... *Philadelphia: D. G. Beers & Co., 1873.* 89 p., f°.

ALBANY.

A plan of the City of Albany. Situated Lat. $42^{\circ} 30'$ Long. 74° . (In: A set of plans and forts in America, reduced from actual survey, by Mary Ann Roque, 1765. [*London, 1765.*] obl. 8°. Plate 2.) *Size within border:* $6\frac{1}{2} \times 4\frac{3}{4}$ inches. *Scale:* 60 ft. $1\frac{1}{8}$ inches. Engraved on copper.

Plan of Fort Frederick at Albany. (In: A set of plans and forts in America, reduced from actual surveys, by Mary Ann Roque, 1765. [*London, 1765.*] obl. 8°. Plate 10.) *Size within border:* $6\frac{1}{2} \times 5$ inches. *Scale* not given. Engraved on copper.

Albany. [With 11 references.] [*London: Thos. Rodd, 1843?*] *Size:* 7×6 inches. *Scale:* n. s. Lithographed. Plain.

The Fort of Albany. [15 references.] [*London: Thos. Rodd, 1843?*] *Size:* $7\frac{1}{2} \times 5\frac{3}{4}$ inches. *Scale:* n. s. Lithographed. Plain.

Fort Frederick, Albany. Small wood engraving. [1850?]

From the same plate as in Munsell's *Annals of Albany*, vol. 1 (1855), p. 315.

City Atlas of Albany, New York... *Philadelphia: G. M. Hopkins, 1876.* 7, 10-98 p. f°.

SARATOGA.

A plan of the Fort at Saratoga. Situated Lat. $43^{\circ} 20'$ Lon. $73^{\circ} 30'$. (In: A set of plans and forts in America, reduced from actual surveys, by Mary Ann Roque, 1765. [*London, 1765.*] obl. 8°. Plate 20.) *Size within border:* $6\frac{1}{2} \times 4\frac{3}{4}$ inches. *Scale* not given. Engraved on copper. Plain.

Plans of Saratoga, cont'd.

Plan of the Encampment and position of the Army under . . . Genl. Burgoyne at Braemus Heights on Hudson's River. . . Drawn by W. C. Wilkinson, Lt. . . London: *Wm. Faden*, 1780. *Size*: $13\frac{1}{4} \times 13\frac{1}{2}$ inches. *Scale*: about $4\frac{1}{2}$ inches = 1 mile. *Engraved on copper by Wm. Faden*. Colored by hand.

Plan of the position which the Army under Lt. Genl. Burgoyne took at Saratoga on 10th Sept. 1777, and in which it remained till the Convention was signed. London: *Wm. Faden*, 1780. *Size*: $18\frac{3}{4} \times 8\frac{1}{2}$ inches. *Scale*: 6 inches to mile. Copperplate by Faden. Colored by hand.

FORT EDWARD.

A plan of the Royal Block House, with the environs at Fort Edward. [In: A set of plans and forts in America, reduced from actual surveys, by Mary Ann Roque. 1765. [London, 1765.] obl. 8°. Plate 22. *Size within border*: $5\frac{3}{4} \times 4\frac{3}{4}$ inches. *Scale*: 20 ft. 1 inch. *Engraved on copper*. Plain.

Plan of Fort Edward. Situated Lat. 43°. Lon. 72°. 30'. (In: A set of plans and forts in America, reduced from actual surveys, by Mary Ann Roque, 1765. [London, 1765.] obl. 8°. Plate 13.) *Size within border*: $6\frac{1}{2} \times 4\frac{3}{4}$ inches. *Scale* not given. *Engraved on copper*. Plain.

EXHIBITION.

of

THE NEW YORK GENEALOGICAL AND
BIOGRAPHICAL SOCIETY

in official connection with the

HUDSON-FULTON CELEBRATION

226 WEST 58TH STREET, NEW YORK CITY.

September 25th-October 9th, 1909.

OF
OF
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CATALOGUE

Loaned by MRS. ELLIOT G. ANDRESEN.

- No.
- 1 Letter dated U. S. Frigate "Constitution," July 20, 1809, to Lt. Adams.
 - 2 Letter dated Bath (England), June 29, 1812, by Wm. Fisher.
 - 3 Deed dated Province of New Hampshire, Sept. 6, 1760, by Thomas Westbrook Waldron.
 - 4 Order dated N. Y. Navy Yard, July 26, 1808, to Midshipman Wm. P. Adams.
 - 5 Letter from Secretary of the Navy, July 10, 1805, notification of appointment as Midshipman of Wm. P. Adams.
 - 6 Order dated N. Y. Navy Yard, April 25, 1808, to resign command.
 - 7 Copy of the New Hampshire Gazette, Jan. 15, 1800, accounts from many cities of funeral honors of Gen. George Washington.
 - 8 Miniature of Lt. William Parker Adams.

Loaned by MR. CLARENCE WINTHROP BOWEN.

- 9 Portrait William Branch Giles (1762-1830), Member Congress 1789-1802, United States Senator 1804-1815, Governor of Virginia 1827. Gilbert Stuart. For description of portrait and other portraits of Gov. Giles see Memorial Volume on Centennial of Washington's Inauguration. D. Appleton & Co. 1892. Page 464.

Loaned by COL. JOHN C. CALHOUN.

- 10 Portrait of John C. Calhoun.

Loaned by HON. A. T. CLEARWATER.

- 11 Photo of Tromper Coat-of-Arms.

Loaned by DORMAN & DANA.

- 12 Exemption pass for a Brig dated 1816.

OF

OF

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Loaned by MR. HENRY RUSSELL DROWNE.

Prints.

- 13 Revolutionary Period.
- 14 Soldiers of the Continental Army, by a German artist.
- 15 American Rifle Men, by an English artist.
- 16 Early Representation of Yankee Doodle with the American Flag, Published in London, August, 1778.
- 17 William Pitt—English Print.
- 18 Battle of Bunker Hill—English Print.
- 19 Victory of Bon Homme Richard under John Paul Jones over the Serapis, showing early American Flag—English print.
- 20 Surrender of Lord Cornwallis at Yorktown, Va.—French print.
- 21 Surrender of Burgoyne at Saratoga, N. Y.—French print.
- 22 Reduction of Great Britain in the loss of her Colonies.
- 23 Capture of the Frolic by the U. S. Sloop of War Wasp.
- 24 Capture of the Guerriere by the U. S. Frigate Constitution.

Miscellaneous Documents.

- 25 Seal and Autograph of De Witt Clinton, Mayor, New York, 1805.
- 26 Seal and Autograph of Wm. Yates Good, Mayor, Albany, 1793.
- 27 Affidavit, Frederick De Peyster, 1804.
- 28 Report of the Committee on Nominations of Schenectady, N. Y., 1806. (Signatures.)
- 29 Certificate of Discharge, New York State Artillery, May 12, 1812.
- 30 Conveyance of a share in New York Tontine Coffee House, Aug. 12, 1802, by Samuel Ward.
- 31 Certificate of Membership, New York Marine Society, March 12, 1781.
- 32 Ship Charter, signed by President James Monroe, Dec. 13, 1821.
- 33 Account of Murders Committed at Wethersfield, Connecticut, Providence, Jan. 1, 1783.
- 34 Manumission of Richard Landerson, a slave, Albany, New York, Aug. 16, 1810, signed by P. S. Van Rensselaer, Mayor.
- 35 Certificate as Fireman City New York, Nov. 16, 1809. Signed John Pintard.

Colonial.

- 36 Autograph, Fred Philipse of the Manor of Philipsburgh, N. Y., Dec. 20, 1758.

- 37 Document relating to the Stamp Act, addressed to the Governor, Colony of Rhode Island. Dated March 29, 1766. Signed Joseph Sherwood.
- 38 Bond of a Bond Servant, Christopher Benter, Dec. 24, 1744, to serve for eight half years for his transportation.
- 39 Proclamation Regarding Observance of the Sabbath by Solomon Drowne, Justice of the Peace, October, 1745.
- 40 Commission from Governor of Rhode Island, May 10, 1745, to Solomon Drowne as First Lieutenant Providence Artillery.
- 41 Instruction from the Assembly of the Baptist Churches of Providence, June 19, 1752.
- 42 Deed of Stephen Arnold, Warwick, R. I., May 20, 1677.
- 43 Commission of James Arnold from State of Rhode Island as Captain of the Trained Band of Town Warwick, May 12, 1735.
- 44 Deed of William Arnold (photograph), Oct. 17, 1643, Providence, R. I.
- 45 Power of the Attorney John Stafford, Sept. 14, 1733, Warwick, R. I.
- 46 Deed of Zachary Roades (Rhodes), March 25, 1664. Pawtuxet, Rhode Island.
- 47 Genealogical Chart of Solomon Drowne, son of Leonard the emigrant, from 1686, giving births of all the members of his family. Dated Dec. 28, 1738.
- 48 Attachment of Personal Property by Richard Waite, Aug. 15, 1679.
- 49 Call to General Assembly by Governor of the Colony of Rhode Island, Dec. 16, 1755. Signed "Stephen Hopkins, Governor."
- 50 Address to Inhabitants of Boston on the occasion of the Execution of Levi Ames for burglary. Lines on the death of Miss Poly Spear, Jan. 28, 1773.

B o o k s .

- 51 German History of the Revolution in North America, printed in 1784 (illustrated).
- 52 Almanack—1744, Nathanael Ames, Boston, Mass.
- 53 Almanack—1757, Nathanael Ames, Boston, Mass.
- 54 Almanack—1783, Isaac Weston, Salem, Mass.
- 55 Life and engagements of Paul Jones, New York, 1809.
- 56 Slavery—dedicated to the Continental Congress, 1776; New York, 1785.
- 57 Address—Society of Tammany, New York, 1819.
- 58 Oration by Dr. Joseph Warren to Commemorate the Boston Massacre of July 5, 1770. Boston, 1775.

OF

OF

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- 59 Bill of Rights. Proceedings of American Continental Congress 1774. Boston, 1774.

Relics.

- 60 Spike from the U. S. Frigate Constitution.
61 Sun dial with compass from the Arnold Homestead, 1771, Warwick, R. I.
62 Old pewter sun dial.
63 Picture of Lafayette, presented by General Lafayette to Dr. Solomon Drowne in 1824.
64 Ivory head of Cane which belonged to Roger Williams, given by Williams Thayer, a lineal descendant, to Henry B. Drowne, of Providence, R. I., who had it mounted.
65 Old Drowne Fire Bucket, 1756, of Solomon Drowne, Providence, R. I., father, Dr. Solomon Drowne of the Revolution.
66 Old Colonial Spoon Moulds from Drowne Homestead, Foster, R. I.
67 Old Colonial Button Moulds from Drowne Homestead, Foster, R. I.
68 Old Colonial Hammer, supposed to have been brought over from England by the emigrant, Leonard Drowne, shipbuilder, about 1660.
69 Colonial Flint Lock Pistol.
70 Tomahawk of an Indian Chief.
71 Early American Wood Carvings—miniature figurehead for a ship—made by Shem Drowne, of Boston, son of Leonard. See "Drowne's Wooden Image" in Hawthorne's "Moses from an Old Manse."
72 Colonial Shoe Last from the old Arnold Homestead, Possnegansett Farm, Warwick, R. I.
73 Colonial Shuttle for Hand Loom, from same.
74 Roger Williams' Watch—Case made in France by Cochin; works made by Cornelius Uytterweer, Rotterdam, Holland. Period 1660-1680. Shows day of the month and runs with a pendulum. This watch was secured by the grandfather of the present owner from Williams Thayer, of Providence, R. I., who was a direct descendant of Roger Williams, the founder of Rhode Island. The remarkably fine work on the outside case represents the parting of Hector and Andromache before the walls of Troy.

Revolutionary.

- 75 Washington Crossing the Delaware. Cartoon by Darley (original).
76 Approval signed by George III. of England dated 1790.

- 77 Approval signed by Louis XVI. of France ("Bon") dated 1781.
- 78 Invitation to dinner from General Washington. "Answer if you please," in his own handwriting. "3rd February."
- 79 Autograph George Washington, letter of June 12, 1783.
- 80 Autograph Bushrod Washington, Mt. Vernon, Jan. 17, 1816.
- 81 Martha Washington, Death Notice.
- 82 Memorial address on Washington delivered on the first celebration of Washington's birthday, Feb. 22, 1800, by Solomon Drowne, M. D., at Union, Fayette County Pennsylvania (original manuscript); also the Fayette Gazette, Feb. 28, 1800, in mourning for Washington, in which the above address is printed.
- 83 Autograph Jonathan Trumbull, Jan. 15, 1818.
- 84 Autograph John Hancock (letter to his wife), York Town, Pa., Oct. 1, 1777.
- 85 Bulletin announcing the Surrender of Gen. Burgoyne at Saratoga, dated Albany, Oct. 15, 1777.
- 86 Autograph Col. Benjamin Tallmadge, July 25, 1796.
- 87 Autograph Brig. Gen. Joseph Harmar, May 23, 1796.
- 88 Autograph Gen. William Knox, Jan. 25, 1789.
- 89 Autograph Gen. Henry Knox, Nov. 7, 1791.
- 90 Revolutionary Parole (English), Joseph Gardenier, Lieutenant, Third North Carolina Regiment.
- 91 Original Printing. Articles of Confederation of the Thirteen States by Order of Congress. Henry Laurens, President.
- 92 Original Printing. Constitution of the United States of America by Order of the Convention, May 29, 1790.
- 93 Newspaper Clipping, Announcement of the Declaration of Independence, July 5, 1776.
- 94 Announcement of the Surrender of Cornwallis at York in Virginia, Oct. 19, 1781. Printed in Providence, Nov. 8, 1781.
- 95 Diploma from the Pennsylvania Hospital to Dr. Solomon Drowne, March 29, 1775.
- 96 Diploma of Dr. Solomon Drowne from the American Academy of Arts and Sciences, Boston, Mass., Jan. 27, 1796.
- 97 Original MS, poem in blank verse of the death of Gen. Joseph Warren, killed at Battle of Bunker Hill, June 17, 1775, by Dr. Solomon Drowne, dated July 31, 1775.
- 98 Commission as Surgeon by State of Rhode Island to Dr. Solomon Drowne, Aug. 1, 1777.
- 99 Certificates of Disinfection of Dr. Solomon

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- Drowne, Boston, Aug. 6, 1776, and Miss Betsy Russell (whom he afterwards married).. Providence, Oct. 28, 1776.
- 100 Autograph, Commodore Abraham Whipple, U. S. Navy, May 1, 1783.
 - 101 Autograph Stephen Hopkins, Governor Rhode Island, signer of the Declaration of Independence. Dec. 12, 1758.
 - 102 Autograph Major General Nathaniel Greene, Nov. 27, 1777.
 - 103 Autograph Gen. Rufus Putnam, Sept. 12, 1791.
 - 104 Poem on death of Gen. Joseph Warren, Providence, July 27, 1775.
 - 105 Subscription raised in Monmouth County, New Jersey, to relieve the suffering inhabitants of the Town of Boston, two documents. Dec. 3, 1774, and March 11, 1775.
 - Autograph Alexander Hamilton, Feb. 21, 1792.
 - 106 Autograph Aaron Burr, June 13, 1777.
 - 107 Autograph Albert Gallatin, Dec. 30, 1802.
 - 108 Autograph Robert Morris, July 9, 1782.
 - 109 Letter of Marque, April 3, 1776, by order of Congress, John Hancock, President.
 - 110 Journal of the Cruise of the Privateer sloop of war, "Hope," 1780, by Dr. Solomon Drowne (original MS.).

Loaned by ELLSWORTH ELIOT, M. D.

- 111 Petition dated 1647 indorsed by Gov. John Winthrop.
- 112 Letter dated 1673, Rev. Joseph Eliot, indorsed by Gov. John Winthrop.

Loaned by MR. WILLIAM B. OSGOOD FIELD.

- 113 and 114 Two engravings of early New York Harbor.

Loaned by MR. HENRY P. GIBSON.

- 115 Old Portrait of Petrus Stuyvesant, copied, Director General of New Netherland.
- 116 Stuyvesant Coat-of-Arms.
- 117 Wax Portrait of Brig. Gen. Abraham Ten Broeck, of Albany, N. Y.
- 118 Ten Broeck Coat-of-Arms.
- 119 Personal book of devotions of Brig. General Abraham Ten Broeck, of Albany, N. Y.
- 120 Oil Portrait of Capt. Abram Moser, of the Continental Army in the Revolution.

- 121 Oath of Allegiance of Capt. George Moser, of Col. George Ross' Regiment of Penna. Militia. 1776.
- 122 Photo of Commission of Capt. George Moser of Penna. Militia.
- 123 House in Little Britain, Pa., near Lancaster, in which Robert Fulton was born. Photo taken in 1909 by Geo. Steinman, Esq., President Lancaster County Historical Society.
- 124 House in Lancaster, Pa., in which the father of Robert Fulton lived previous to moving to Little Britain. Photo taken by George Steinman, Esq.
- 125 Snuff box made of fragments of celebrated woods.
- 126 Silver Medal (bottom of mug) Queen-Anne—commemorative of Battle of Malplaquet—English and Dutch allies.
- 127 Dutch New Testament, Amsterdam, 1703. Gift of Margaret Livingston to her aunt, Elizabeth (van Rensselaer-Ten Broeck).

Loaned by MRS. D. H. HANCOCK.

- 128 Engraving steamboat "John Fitch" as it appeared on the Delaware River, 1786.
- 129 Engraving steamboat "Clermont," 1807.
- 130 Engraving steamship "Savannah," 1819. The first to cross the Atlantic.

Loaned by MR. GILBERT RAY HAWES.

- 131 Framed Document, 200 years old, grants of land to Hawes Family.
- 132 Photo Hawes Homestead, Franklin, Mass., erected about 1650. Frame is of wood taken from the house, one of the oldest in the United States.
- 133 Photo of Oil Painting of Joseph Hawes, an officer in the Continental Army in the Revolution.
- 134 Matriculation bond of Matthew Manchester, 1790.
- 135 Diploma (original), 1792, Peter Hawes. Rhode Island College now Brown University.
- 136 Original license to practice law signed by Richard Varick, Mayor of New York, to Peter Hawes, 1795.
- 137 Book containing manuscript records of the Calliopean Society, Peter Hawes, secretary. 100 years old.
- 138 Hawes Coat-of-Arms.

Loaned by MRS. JULIE MERCEIN HAYWARD.

- 139 Subscribers Copy No. 27, "The Croakers," by Joseph Rodman Drake and Fitz Greene Halleck. Published MDCCCLX.



Loaned by MISS ROSALIE M. HEISER.

- 140 Invitation to Celebration of Erie Canal.
- 141 Invitation to Ball for Opening of Erie Canal.
- 142 Portrait Gov. De Witt Clinton.

Loaned by MR. EDMUND ABDY HURRY.

- 143 Coat-of-Arms Hurry Family.

Loaned by MRS. GEORGE WALKER JENKINS.

- 144 Group of Coats-of-Arms.

Loaned by MR. DANIEL STANBURY MERCEIN.

- 145 Oil Portrait of Thomas Royce Mercein, Lieut.-Col. 11th Regt. Artillery, 1815. Comptroller of the City of New York, 1816. Treasurer Com. of Defense, War 1812, disbursed \$1,000,000, for which he received a \$500 set of plate and the thanks of the committee.
- 146 Charter Membership Certificate of Thomas Royce Mercein in the Saint Nicholas Society, dated Feb. 28, 1835.

Loaned by MR. A. D. MIDDLETON.

- 147 Portrait Jonathan Griffin Tompkins. Member of the New York Provincial Congress, 1776 and 1777. Council of Safety, 1777. New York Assembly, 1780-82, 1786-88. Judge of Westchester County Court, 1793-97. Member of the Convention of 1801.
- 148 Coat-of-Arms of the Tompkins Family.
- 149 Regalia of an Indian Chief conferred upon John Sebring Cornell, M. D., of Natchez, Miss., by an Indian Chief on account of a successful operation performed upon the said chief by the doctor.
- 150 Autograph letters signed by: John Adams, second President of the United States, 1797; Thomas Jefferson, third President of the United States, 1801 and 1805; James Madison, fourth President of the United States, 1809 and 1813; James Monroe, fifth President of the United States, 1817 and 1821; John Quincy Adams, sixth President of the United States, 1825; Andrew Jackson, seventh President of the United States, 1829 and 1833.

- 151 Autograph letters signed by Governors of New York: George Clinton, first, 1777 to 1792, and 1801.
- 152 John Jay, second, 1795-98.
- 153 Morgan Lewis, third, 1804.
- 154 Daniel D. Tompkins, fourth, 1807-1816.
- 155 John Taylor (acting), fourth, 1817.
- 156 De Witt Clinton, fifth, 1817-20, and 1824-26.
- 157 Joseph C. Yates, sixth, 1822.
- 158 Nathaniel Pitcher (acting), sixth, 1828.

Loaned by MR. CORNELIUS BERRIEN MITCHELL.

- 160 Manumission Paper freeing one female slave. Signed by Richard P. Berrian, Oct. 23, 1815.
- 161 Manumission Paper freeing two slaves. Signed by Cornelius P. Berrian, Aug. 29, 1823.
- 159 Indenture signed by Richard Morris, Chief Justice New York. 1785.
- 162 Fob with seal Berrien Family.
- 163 Certificate of Discharge from Regiment of Artillery of Cornelius P. Berrian, May 20, 1805.

Loaned by MISS GRACE MITCHELL.

- 164 Coat-of-Arms Berrien Family.
- 165 Picture of "Eagle" presented to Major John Berrien, Secretary Society of the Cincinnati in the State of Georgia, by General George Washington.

Loaned by MR. HOPPER STRIKER MOTT.

- 166 Wax miniature of Jordan Mott, 1796.
- 167 Coat-of-Arms, Mott Family.
- 168 Coat-of-Arms, Striker Family.
- 169 Coat-of-Arms, Hopper Family.
- 170 Coat-of-Arms, Coles Family.
- 171 Coat-of-Arms, Schuyler Family.
- 172 Oil Painting Mott Mansion, foot West 54th St., N. Y. City. From painting by W. L. Sontag, N. A. Erected 1796; Razed 1897. Where Anne Mott died.
- 173 Table Cloth presented to Mrs. Anne Mott by American Officers, prisoners in the Sugar House. Vide N. Y. G. & B. Record Jan., 1905.
- 174 Silhouette of Mrs. Anne (Coles) Mott, wife of Jordan Mott, born Aug. 10, 1747, died July 16, 1840. One of eight whose names are preserved of those who ministered unto the wants of the American prisoners in the Sugar House during the Revolution.

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- 175 Hopper Bible.
- 176 Lt. John Hopper's Silver Spectacles. 1760.
- 177 Lt. John Hopper's Gold Watch. 1760.
- 178 Oil Painting, Striker's Bay, 96th Street and North River; painted 1852, erected 1764. In possession of the British during the Revolution.
- 179 Conveyance Wm. Campbell of Orange Town, County of Orange, and Province of New York, to Nicholas Dikeman of Bloomingdale on York Island, Sept. 24th, in the 28th year of the Reign of our Sovereign Lord George. 1755. £200. Land on Nassau Island.
- 180 Conveyance Nicholas Roosevelt to Richard Seaman and Jordan Lawrence. Release of Lot No. 110, near the Jews' Burial Ground on the east side of St. James Street, N. Y. City. Feb. 9, 1774. £140.
- 181 Conveyance Elbert Kip and Cornelius Kip, administrators of Samuel Kip to Jordan Mott, land at Kip's Bay Farm. May 16, 1804. \$805.

Loaned by NEW YORK GENEALOGICAL AND BIOGRAPHICAL SOCIETY.

- 182 Picture of the Bayard Country Seat at Alpen, near Leyden, Holland, with portrait of Samuel Bayard and his wife, Anna Stuyvesant, about 1638. Framed in the wood of the Stuyvesant Pear Tree which fell in 1867.
- 183 Engraving by William E. Marshall of the original painting of Washington by Gilbert Stuart, now in the Boston Athenaeum.
- 184 Photograph of the Gilbert Stuart painting of Washington, known as the Gibbs-Channing Portrait.
- 185 Photo of portrait of Washington by Robertson.
- 186 Gavel made of wood of the "Powhattan," Com. Perry's Flag Ship, when he opened the Ports of Japan.
- 187 Cincinnati certificate of membership, Frederick Weissounett, Lt. Col. Commandant of the Fourth Regiment of New York. Dated October 10, 1783.

Loaned by MR. HOWLAND PELL.

- 188 Commission as Sheriff of New York, issued to Benjamin Ferris by Gov. Tompkins, Feb. 6, 1812.
- 189 Deed for land at East Chester, N. Y., from William and Anna Crawford to Peter Ferris, May 1, 1733.

- 190 A copy of the Dongan Grant of Pelham Manor,
made from the original, Aug. 18, 1804.
- 191 A copy of the Nicolls Grant of Pelham Manor,
made from the original, May 5, 1761.
- 192 Deed from Peter Ferris to his sons Gilbert,
Joshua and Jonathan. Oct. 29, 1754.
- 193 Bond of the three sons for £300 to Richard
Nichols. Dec. 20, 1754.
- 194 License to practice law issued to Benjamin
Ferris by Richard Varick. Feb. 23, 1796.
- 195 A piece of the Pell Treaty Oak.
- 196 Facsimile of Cromwell's Instructions to Dr. John
Pell, President to the Swiss Canton. Feb. 21,
1655.
- 197 Facsimile of the Appraisalment of the Estate of
Col. Lewis Morris. Feb. 17, 1691.
- 198 Receipt from Benjamin Pell to his brother-in-
law, Jonathan Ferris, witnessed by his son, Wm.
Ferris Pell, and James Irwin. Aug. 13, 1795.
- 199 Deed of Mutual Covenant between the heirs of
John Pell, Lord of Pelham Manor, in relation
to recovery of land in the Manor. Sept. 6, 1804.
- 200 Eight varieties of Colonial Currency.
- 201 English Caricature "Battle of Bunker Hill" or
"America's Head Dress." London, 1776.
- 202 Policy of Marine Insurance on cargo of sloop
"Good Intent," Capt. John Howland. Jan. 13,
1796.

Loaned by MR. CHARLES PRYER.

- 203 Illuminated Coat-of-Arms Pryer Family.

Loaned by MR. JOSIAH COLLINS PUMPELLEY.

- 204 Commission of Lt. David Pixley in Col. John
Patterson's Regiment. Dated May 19, 1775.
Signed by Jos. Warren, President P. T.
- 204 A Pumpelly Coat-of-Arms.

Loaned by MR. CHARLES FREDERICK QUINCY.

- 205 Oil painting Col. George Washington reviewing
the Western Army at Fort Cumberland, Md.,
in uniform of a British Colonel. Claimed to
have been painted by Charles Wilson Peale and
to be the earliest picture of Washington in
existence.
- 206 Photo Hon. Josiah Quincy, Mayor of Boston,
1823; President of Harvard College. Born
1772, died 1864. From painting by Gilbert
Stuart now at Museum of Fine Arts, Boston.

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- 207 Photo Judge Edmund Quincy, brother of Josiah Quincy, from painting by John Swiebert, now in Museum of Fine Arts, Boston.
- 208 Coat-of-Arms Quincy Family.

Loaned by MR. JOS. F. SABIN.

- 209 Engraving Robert Fulton after B. West.
- 210 Plan of West Point, 1780.
- 211 Small plan of New York, 1729.
- 212 Fictitious German view of New York.
- 213 Plan of Ft. Washington, London, 1777.
- 214 Lotters map of New Belgium.
- 215 Bradford's map New York, 1728.
- 216 The Duke's plan of New Amsterdam, 1664.
- 217 Ft. George, 1740.
- 218 Government House, 1797.
- 219 Burgis view of New York, 1717.
- 220 Sale of the "Vineyard" property, N. Y. City.
- 221 Autograph Lt. Gov. Pierre Van Cortlandt, 1784.
- 223 Lease of part of Kings Farm, 1745.
- 224 English account of Andre's Execution.
- 225 Ship's clearance signed Pres'd't Thomas Jefferson and James Madison, Secretary of State.
- 226 Autograph of Stephen Van Cortlandt, Justice of the Peace, 1754.
- 227 Autograph Mayor New York, 1684.
- 228 Autograph Francis Child under Sir Hy. Moore, Gov., 1768.
- 229 Bank of the United States, sale of Stock, 1792.
- 230 Pk. Ten Eyck in reference to Lotteries, 1804.
- 231 Moore's account of Quit Rents in N. Y., 1769.
- 233 Old Deed, signed Hendrick Turk, 1752.
- 234 Lease in Montgomerie Ward, 1767.
- 235 James Livingston, State Convention, 1776.
- 236 Wm. Burnet, 1776, Colonial Governor.
- 237 Autograph Marinus Willett, 1782.
- 238 Lease of Beekman property, 1775.
- 239 Surveyor's notes mentioned Paines land, Pelham Road.

Loaned by MAJ. LOUIS LIVINGSTON SEAMAN,
M. D.

- 240 Seaman Family Tree.
- 241 Livingston Family Tree.
- 242 Ferris Family Tree.
- 243 Old John Jay Mortgage.
- 244 Original Grant of Grove Farm, Westchester.

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Loaned by MRS. GEORGE BEEKMAN SHEPPARD.

- 245 Photograph of portrait taken about 1829 of Rev. Stephen Nicholas Rowan, D. D. He was one of the passengers on the first trip of the Clermont, New York to Albany. He graduated from Union College, 1804. Columbia College conferred degree S. T. D. in 1822. See "Albany Chronicles," 1906, page 403.

Loaned by JOHN EDWIN STILLWELL, M.D.

- 246 Miniature of Edward Leacraft, of South Carolina, Aide de Camp to Gen. Lafayette during the Revolution.
- 247 Miniature of Dr. Aaron Pitney, of Monmouth Co., N. J. Surgeon in the Revolutionary Army.
- 248 Miniature of Lt. Col. Thomas Seabrook of Monmouth Co., N. J.. Revolutionary officer and Member of Assembly.
- 249 Miniature of Capt. Nicholas Brown Seabrook, of N. J. and Virginia. Revolutionary officer.
- 250 Miniature of Mary Dutchess of Westchester Co., N. Y., wife of Capt. Nicholas Brown Seabrook.
- 251 Miniature of Joseph Stillwell, of Monmouth Co., N. J. Revolutionary officer, Judge and Member of Assembly.
- 252 Miniature of Col. Aaron Burr, Revolutionary officer, Governor of New York, and Vice-President of the United States.
- 257 Indian Deed, 1650, conveying Coney Island to the Inhabitants of Gravesend.
- 254 Conveyance of Petrus Stuyvesant to Thomas Jansse, 1661. Impressed with Beaver Seal.
- 255 Conveyance of Gov. Philip Carteret and his Council, to Richard Hartshorne, of land called Waycake Neck, adjacent to what is now known as the Atlantic Highlands. Dated 1676.
- 256 Marriage License dated 1678 of Mary Stillwell to Adam Mott, Jr.
- 257 Marriage License issued by Gov. Thomas Boone to John White and Mary Jackson, 1761.
- 258 Commission issued by Gov. Josiah Hardy to Garret Covenhoven to be Lieutenant of Militia in N. J. 1763.
- 259 Commission issued by Gov. William Livingston to Joseph Stillwell to be Lieutenant of Militia in N. J. 1782.
- 260 Commission issued by Gov. Benjamin Fletcher to Jaques Quartilieu (Jacques Cortilyou) to be that of Captain of a company of foot, whereof Stephanus Van Cortlandt is Col. 1692-3.



- 261 Commission issued by Lord Cornbury, Gov. of N. Y., to Joost Van Brunt, to be Capt. of Militia. 1705.
- 262 Commission issued by Gov. William Burnet to Rutgert Van Brunt to be Capt. of Militia. 1727-8.
- 263 Commission issued by Gov. John Montgomerie to Rutgert Van Brunt to be Capt. of Militia. 1728.
- 264 Commission issued by Gov. George Clarke to Nicholas Stillwell to be Capt. of Militia. 1737.
- 265 Commission issued by Gov. George Clinton to Nicholas Stillwell to be Lt. Col. of a Regiment of Militia. 1749.
- 266 Marriage License Ann Wilkins and William Foster. Signed by Gov. Androssa. 1679.
- 267 Conveyance of land by Gov. Gawen Lawrie, of N. J. and his Council, to Peter Tilton. 1686.
- 268 Conveyance of land by Gov. Andrew Hamilton, of N. J., and his Council, to Eleazer Cottrell. 1687.
- 269 Commission of Ensign Joost Van Brunt issued by Gov. Jacob Leisler and signed by Jacob Milborne, Secretary. 1689.
- 270 Commission issued to Ensign Joost Van Brunt issued by Gov. Fletcher. 1692-3.
- 271 Oil painting Aaron Burr by Van Dyck of New York.
- 273 Oil painting Aaron Burr by Vanderlyn.

Loaned by MR. ELSWORTH L. STRIKER.

- 273 Oil portrait of Jacobus Strycker, 1653, Magistrate of the original court of New Amsterdam. Painted on wooden panel by himself.
- 274 Dutch Chair brought by Jacobus Strycker from Holland in 1651.
- 275 Oil portrait Maj. Gen. Garrit Hopper Striker. Capt. 5th N. Y. Reg., War 1812.
- 276 Photo the Striker Mansion, foot West 53d St., N. R. Residence Gen. Striker. Erected 1752. Razed 1896.

Loaned by MR. ROBERT S. TALMAGE.

- 277 Portrait in oil of the son of Gen'l Henry Knox, painted in Boston about 1780.
- 278 Snuff-box in lacquer and tortoise shell, mounted in silver floral design, carried by Aaron Burr until his death.

- 279 Black lacquer snuff-box mounted in silver, with Talmage motto on cover.
- 280 Miniature on ivory of Major Thomas Talmage, eighteenth century.
- 281 Talmage Coat-of-Arms.
- 282 Colonial miniature of Gentleman on ivory.
- 283 Colonial small miniature of Gentleman on ivory.
- 284 Early Dutch pewter snuff-box.
- 285 Old Worcester platter of dinner set, belonging to Col. Wm. Washington of Charleston, S. C.
- 286 Gentleman's embroidered waistcoat, eighteenth century.
- 287 Youth's embroidered waistcoat, eighteenth century.
- 288 Certificate of membership to the New York Marine Society of Pexcel Fowler.

Loaned by MRS. GEORGE M. VAN DUZEN.

- 289 Coat-of-Arms of the "de Cressie" Family.
- 290 Piece of Wall Paper, homestead of Capt. Christopher Van Duzer, Warwick, N. Y., with verses from Bible. Colonial.
- 291 Symbolic Pen Drawing, dated 1809. On back of picture "Agnes Dolson Her Picture, 1809."

Loaned by J. BLAKE WHITE, M. D.

- 292 Photo of Portraits of Gen. Jacob Faust and Col. Sam'l Warren.
- 293 Engraving of a painting by John Blake White, "Gen. Marion, etc."
- 294 Engraving of a painting by John Blake White, "The Rescue."
- 295 Engraving by J. C. Buttre of John Blake White, of South Carolina, pupil of Benjamin West.

Loaned by MRS. ANNA C. WILDEY.

- 296 Coat-of-arms Chesebrough Family.

Loaned by GEN. JAMES GRANT WILSON.

- 297 Miniature of Fitz Greene Halleck, painted by Rogers, 1807.
- 298 Original drawing of Purchase of Island of Manhattan.
- 299 Steel Portrait of Henry Hudson.
- 300 Picture of Half Moon.

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- 301 Photo of Collier's painting of Hudson cast adrift by his mutinous crew.
- 302 Gold Sleeve Links worn by Washington, later presented Oct., 1777, to replace pair lost by Gen. Arnold in Battle of Saratoga, when he became a traitor and Washington denounced him as such, he gave the links to Col. Tarleton, the only British officer who treated him courteously. Before his departure, Tarleton presented the links to his military secretary, an American loyalist named Halleck, who, having taken the oath, was permitted to remain. He left the links to his only son Fitz Greene Halleck, and he bequeathed them to his friend and biographer, General Wilson.
- 303 Gold Ring containing the hair of Washington, Hamilton, Napoleon, Wellington, Lincoln and Grant.
- 304 Waterloo Silver Medal received by Capt. Frederick Lahrbush of the 60th Rifles from Wellington, and bequeathed to Gen. Wilson.
- 305 Three Silver Medals, struck in Holland, to Commemorate American Independence.
- 306 Morocco Thread and Needle case used by Miss Jane Bayard during the Revolutionary War.
- 307 Gold Ring brought from Holland by Stuyvesant's sister, Madame Bayard, in 1647, ancestor of the above.
- 308 Pen and Ink drawing by Kosciusko.
- 309 Mount Vernon relic of Washington.
- 310 Engraving of Columbus.
- 310 A Kosciusko's Sword, used by him in his American campaign.
- 310 B Fitzgreene Halleck manuscript.

Loaned by MR. T. A. WRIGHT.

- 311 Old Deed, dated 1665, signed by Charles Calvert (Lord Baltimore).
- 312 Ancient Spanish book.

THE WILD ANIMALS OF HUDSON'S DAY AND THE ZOOLOGICAL PARK OF OUR DAY

BY WILLIAM T. HORNADAY, Sc. D.



PUBLISHED BY THE
HUDSON-FULTON COMMISSION
IN COOPERATION WITH THE
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ZOOLOGICAL SOCIETY BULLETIN

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IN COOPERATION WITH

p. 35

THE NEW YORK ZOOLOGICAL SOCIETY.

September, 1909

THE WILD ANIMALS OF HUDSON'S DAY.

By WILLIAM T. HORNADAY,
DIRECTOR OF THE NEW YORK ZOOLOGICAL PARK.

PART I.—THE BIRDS.*

ONLY the bold adventurer who has sailed a frail bark westward across three thousand miles of stormy ocean can know the thrill that is transmitted by the heliograph flash of a pair of silvery wings, with the knowledge that land is near. To the westward trans-Atlantic voyager, it is always the **Herring Gull** at far at sea proclaims the land.

On the wing, this Gull is always beautiful; it never is its plumage quite so silvery, and never are its flight-curves so graceful, as when it greets the tired American who thankfully is sailing toward the Statue of Liberty and Home. Other birds sometimes met off shore, are the **ep-water ducks**, particularly the **Red-Breast**, **Merganser**, with a bill like the serrated snout of a Gangetic crocodile, and flesh so frankly and rankly fishy that only the most powerful human palate can accept it. The **Scoters**, or **urf Ducks**, once in evidence at sea, now are rarely seen in the waters adjacent to New York. Three hundred years ago, before the dark days of bird slaughter in America, it is reasonably certain that New York Bay attracted immense flocks of web-footed wild-fowl. If the stories of that period do not so record it, then the historians were remiss. We are certain that once inside Sandy Hook, the all-too-succulent **Canvasback Duck**, and its understudy, the **Redhead**, "might have been seen," and in fact were seen, by the discerning mariner. But in

an evil moment the baneful eye of the epicure fell upon the savory **Canvasback**, and he pronounced it the king of table ducks. From that hour, its doom was sealed; and today it is almost a bird of history.

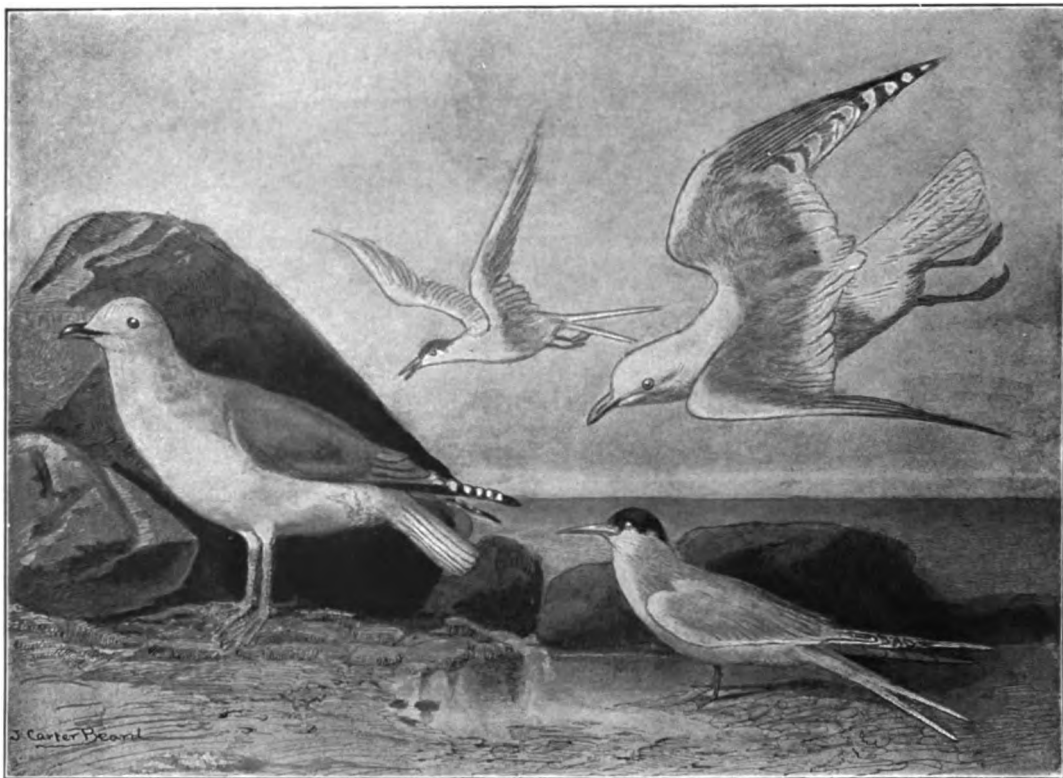
Let us for the moment try to put ourselves in Explorer Hudson's place, and see the birds of the Hudson River and Valley, as he and his men saw them.

Surely on the ponds and streams of Manhattan Island they found the exquisite **Wood Duck**; for even today an occasional wanderer returns to its old haunts in the Zoological Park! Stated in the form of a proportion, the **Wood Duck** is to Other Ducks as The Opal is to Other Gems,—the most glorious in colors of them all. The **Pintail Duck**, however, is more beautiful in form. The most graceful yacht that ever floated never was half so exquisitely modeled in hull and stern and bow as this web-footed water fairy.

The **Mallard Duck** is like charity. It suffereth long, and is kind; so it holds on long after the more sensitive species have been shot out. It will be our last good wild duck to be exterminated by the pot-hunters for the starving millions of wealth,—for whom the fashionable chef feels that he *MUST* provide game, or be disgraced. In the years that have flown, the quiet bayous of the eastern shore of the Hudson have fed and sheltered untold thousands of lusty "**Green-Heads**," young and old, and they were the lawful prey of the hungry explorer and pioneer.

A hundred years ago, the **Osprey**, or **Fish-Hawk**, bred numerously on the rocky walls of

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THE HERRING GULL (1, 2) AND COMMON TERN (3, 4).

the Palisades, and then as now paid toll to the Lord of the Air, who also nested there. Even today they are abundant along the Shrewsbury River, south of New York Bay; but the bay itself no longer furnishes good fishing-ground for them.

The Osprey, or Fish-Hawk, is a bird of highly interesting personality. In the first place, it represents a special development for fishing, and in structure it is a sort of connecting link between the Owls and the Falcons. It has legs that are long and muscular, powerful talons, and unusual wing-power. It thinks nothing of dropping a hundred feet straight into ice-cold water, seizing a fish nearly half its own weight, and flying five miles with it. It is doubtful whether any other bird can catch and bear away fish so large in proportion to its own size. I have seen Ospreys flying with fish so large—always carried with the head pointing forward—that the flight of so small a bird with so great a load seemed almost incredible. It is no wonder that a two-pound fish slowly sailing through the air with an Osprey perched upon it offers a temptation so great that an Eagle cannot always resist it; for, like some human beings, the

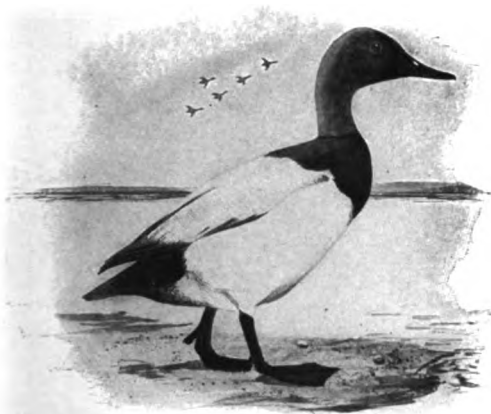
one thing that an Eagle cannot resist is temptation.

The nesting habits of the Osprey are extremely interesting. When not disturbed, the bird uses the same nest, year after year, but each year adds substantially to the structure. The sticks used are large, and the nest soon reaches a breadth and height out of all proportion to the size of the builder. On Gardiner's Island, at the eastern end of Long Island, the protection afforded the Ospreys nesting there so rendered the birds so tame and trustful that they nested very low down, and finally upon the ground. Some of the continuous-performance nests constructed on that island are of enormous proportions.

Attempts have been made to colonize Ospreys in the New York Zoological Park, but the birds always flew away and failed to return.

The White-Headed Eagle, or Bald Eagle, still inhabits the Palisades, and may be seen soaring high above the valley of the Hudson.

When you observe a very large dark-colored bird of prey traveling far aloft, with slow and stately sweep of wings that are broad and shaggy and non-vulturine, it is fair to call it an Eagle. If the head and tail have a gleam like frost

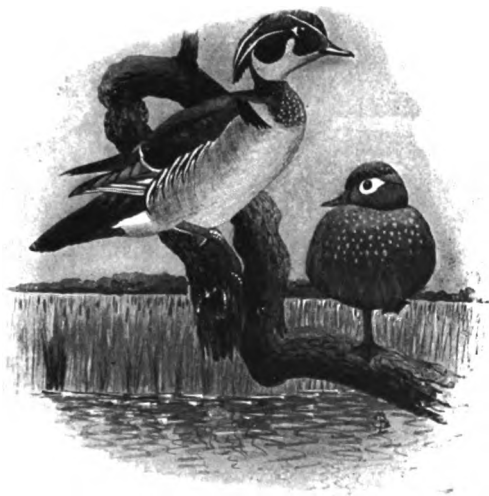


THE CANVAS-BACK DUCK.

ver, then may you know of a verity that the
rial voyager is our national bird in adult plum-
re. Incidentally, you may also know that it is
e of the handsomest of all living birds of prey.
It is now fashionable for young ornithologists
deride our national bird, and besmirch his
aracter, because he exacts tribute of his vas-
l, the Osprey. But he needs no defense from
e, any more than the fires of Vesuvius need a
nitor to hold an umbrella over them to keep
t the summer rain. Whenever the great
merican Eagle really needs defenders, three
llion lusty Americans will rush to volunteer
r the campaign.

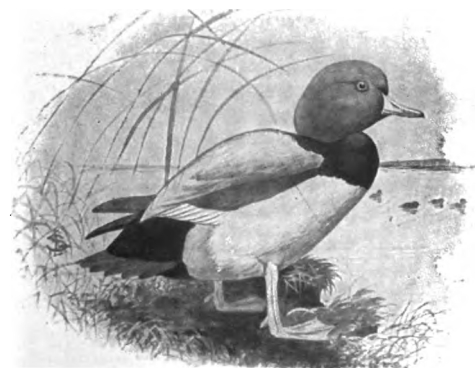
I think it is true of every continent that the
st birds seen by its explorers,—who almost
variably make their initial entries by the water
utes,—are the web-footed birds of sea and

shore, and the feathered fishers of the river-
banks and lakes. We can safely predicate that
when Hudson first went ashore from the bosom
of his mighty river, he became personally ac-
quainted with the **Belted Kingfisher**,—he of
the stem-winding voice, the white collar, and
the jaunty cap of blue. It has been gravely
stated in print that “Kingfishers are found near
streams,” and in similar environments may be
seen the slow rise and stately flight of the
Great Blue Heron; but it is on the marshes
that we hear the deep-seated “voice” of the
American Bittern. The traditional “boom”
of the Bittern looks good on paper; but when
it is compared with the real booms of life, it
seems very small. Being most happily unfit
for food and uncursed with desirable “plumes,”
the Heron and the Bittern, even though large,
still are in our midst; but now there are for-



WOOD DUCK.

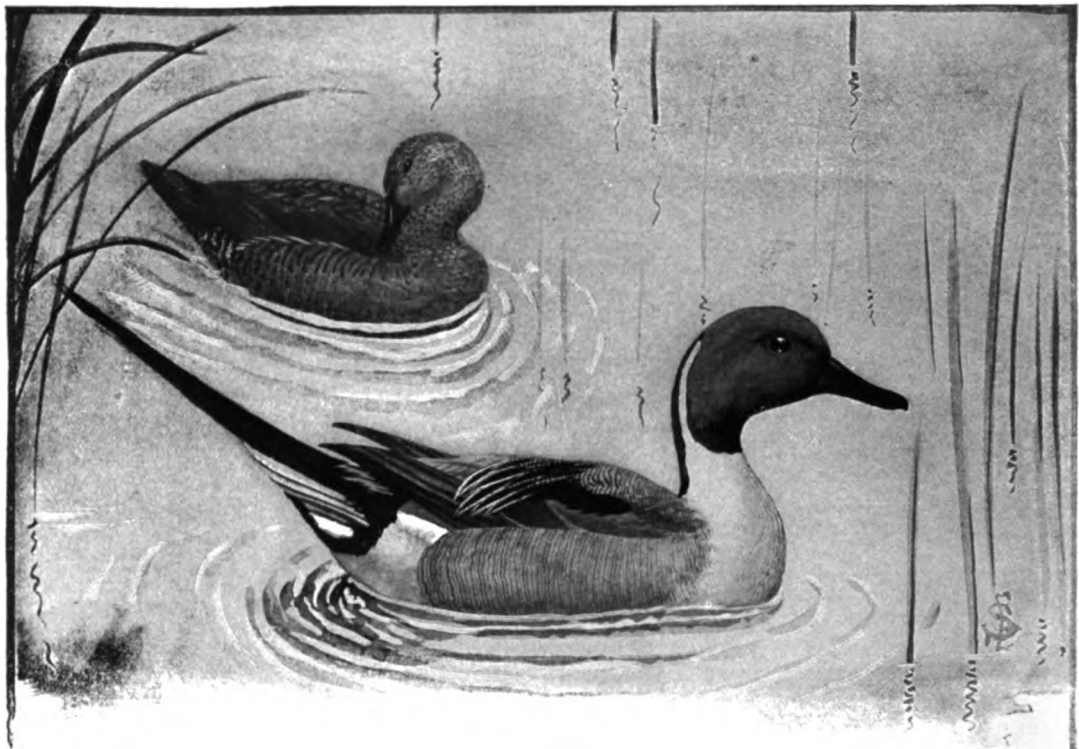
Male and Female.



THE REDHEAD DUCK.

eign bird-killers to reckon with, who kill and
eat everything wild, from vireos to vultures.

Even yet in spring and fall the weird cry of
the uncanny **Loon**, or **Great Northern Diver**,
is heard occasionally over the upper waters of
the Hudson River. In the early days, this bird
was a frequent visitor to the Hudson valley, and
often nested along the upper waters of the river.
Both in form and in habits the Loon is the most
remarkable and picturesque feathered inhabitant
of the Empire State. It is so much like the
giant Penguins of the antarctic regions that it
seems as if it once had lived there, but having



THE PINTAIL DUCK.

wings for flight had wisely transplanted itself to God's country.

Fortunately for the **Great Blue Heron**,—by millions of people miscalled the **Blue "Crane,"**—the cruel and insatiate goddess of Fashion has *not yet* decreed that Woman, the merciful and compassionate, shall collect its plumes for her personal adornment. The well-defined fishy flavor of the Heron's flesh protects it from the evil eye of the epicure; and therefore do we still possess this odd and picturesque bird. True, there is today but one **Great Blue Heron** where a hundred years ago there were a hundred; but we are thankful that the ruthless savages of civilization have spared us even a few samples of the original stock. And yet, there are today State Game Commissioners who are being importuned to "kill off the Blue Herons,"—because in a whole summer season half a dozen of them will kill and eat as many fish as one greedy fisherman would catch and send to market in two days!

If there is anything in game-protection that is supremely annoying, it is solemn talk about the "great destruction of fish" by herons, kingfishers, ospreys, and Californian sea-lions.

In many of the coves and alcoves of the low wet lands flanking the mighty Hudson stream the **Woodcock** and the **Wilson Snipe** still are found; but they are now so rare throughout the Hudson valley that few gunners find it worth while to hunt them. It is the same old story, of inordinate and persistent destruction, down to the vanishing point. Throughout New York state, and many other states, also, both the species should be accorded absolute all-the-year-round protection for at least ten years. It is either that or extinction; and which will the people choose?

Thanks to the splendid efforts of the bird-lovers of New York state, headed by the Audubon Society and William Dutcher, the song-birds are in far better case than the game birds and water-fowl. I believe that none of the eastern New York song-bird species of Hudson day have become extinct, nor anywhere near it. Every spring and summer the sweet wild-wood melody of the **Wood Thrush** rings day after day through the leafy aisles of the Zoological Park, and like the flash of a fiery feathered meteor, the **Scarlet Tanager** streaks through the woods and across our lawns, close before



THE BALD EAGLE.



AMERICAN OSPREY.



AMERICAN BITTERN.

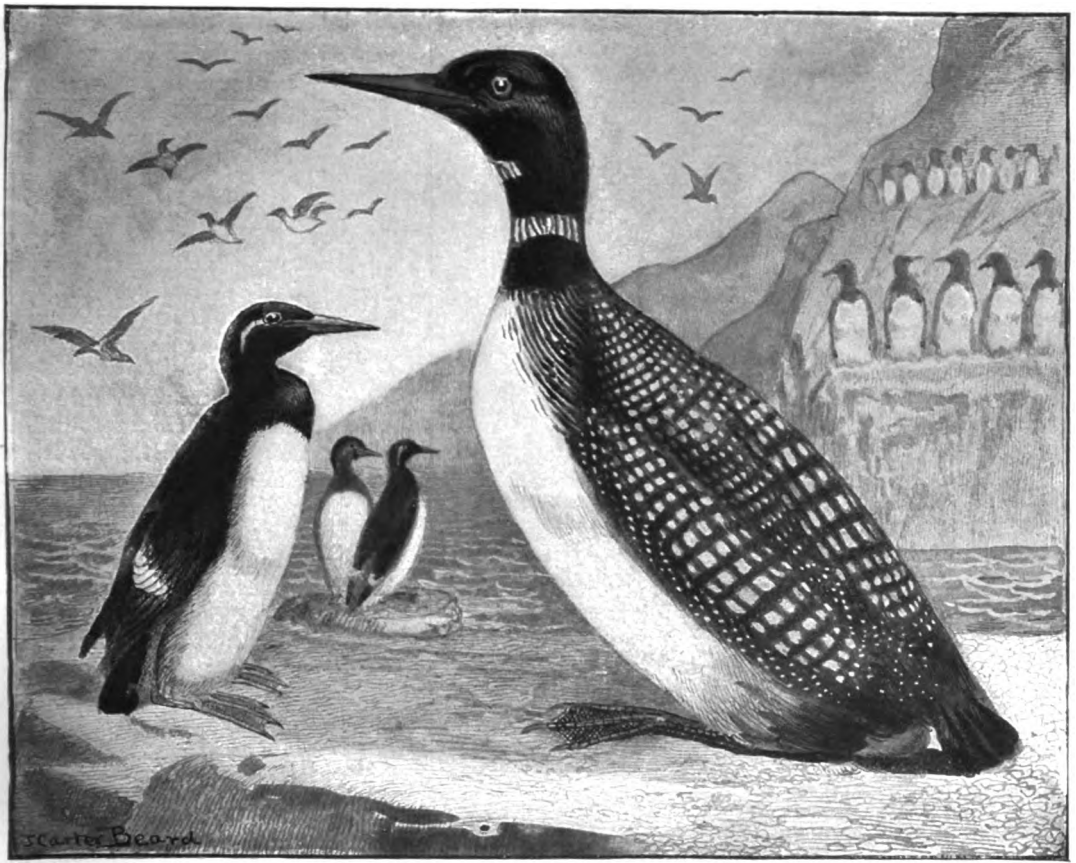
our startled eyes. Our dear old friend the **Robin**, than whom we love none better, joyously accepts our protection, and nests within easy reach of our hands. And only this very spring, even while our men were working in an elephant yard, completing the paving, a Robin built a nest on the frame of the big steel gate of the elephants' fence, that swung within close proximity to an active steam roller and a dozen busy men! And this while the gate daily swung to and fro. Our men were all very proud of this vote of confidence, but alas! the work had to go on. Just as we feared, the bird found this position untenable, and finally it flew away and built another nest in a less busy spot. Another Robin, with more wisdom, built her nest on one of the corral gates of the Antelope House, and although the gate is opened widely every day for the cart to pass through, she successfully reared her brood.



THE BELTED KINGFISHER.

The **Bluebird** still comes to us abundantly in spring, and in the cat-tail marshes along the Hudson and elsewhere,

"The **Red-Wing** pipes his o-ka-lee!" just as it has for a hundred years, and we know not how many more. And be it remarked here that amid at least a hundred species of song birds now kept in the Zoological Park, indoors and out, the Red-Winged Blackbird is the most persistent singer, the most theatrical, and in my opinion very nearly the sweetest singer of them all. In our big outdoor cages, wherein the flocks scarcely know that they are confined, they sing more joyously and persistently than I ever heard them in their own cat-tail marshes.



COMMON MURRE.

THE LOON.

The **Rose-Breasted Grosbeak** is not abundant in eastern New York, and although his champions claim that he is a bonnie singer, they can not prove it by the bird himself. But to the tune he is fine, even though he is "no great hand the pipes."

The **Baltimore Oriole**, dean of the faculty of feathered architects, is much too rare; for a thousand times the number that now visit our village streets and woods would be none too many. His swinging nest, preferably hanging from a down-drooping terminal twig of an elm, is one of the most wonderful manifestations of bird-wisdom and architectural skill that America produces.

Although practically all Americans have now been educated entirely beyond the killing of song-birds,—*the most valuable friends of every farmer and fruit grower*,—there is danger in the air. From southern Europe there have come to this country, for revenue only, hundreds of thousands of Italian laborers by whom every song-bird is regarded as legitimate prey for the pot! Every camp or large settlement of Italian labor-

ers is a center of song-bird destruction. Look out for them! Curb them! The laws are entirely adequate; please see to it that they are enforced. By the laws of the state of New York, no unnaturalized alien may carry firearms; and the penalties for doing so are very severe. Even in New York city, the Zoological Society has had to put forth a great effort to stop the wholesale killing of song-birds, by Italians, within two miles of our Park!

We greatly regret the fact that throughout the North generally, the pestiferous English Sparrow has to a great extent driven out the **House Wren** and the **Martin**. Both those species loved the haunts and companionship of man, until the coming of Ahab, the sparrow. If the latter could be exterminated, the other two species would immediately return.

Of all the feathered foresters that specially look after the insects that damage forest trees, the most showy and picturesque are the **Golden-Winged** and **Red-Headed Woodpeckers**. Poor indeed is the forest or wood lot that has not at least one of them. The former is



GREAT BLUE HERON.

gloriously abundant throughout the valley of the Hudson, but the latter is at most seasons quite rare. In my boyhood days I despised the abundance of the Red-Head, and foolishly spurned it; but the cash value of the woodpeckers generally is now understood in a way that it was not forty years ago.

The owls that hinged in the woods of Manhattan Island three hundred years ago still maintain their lines of descent. In spite of guns, traps and poison, the **Great Horned Owl**, the **Barred** and the **Screech Owl** will not down.



AMERICAN WOODCOCK.

All three persist today, even in the Borough of the Bronx. Only forty years ago I was one night assaulted in Mosholu Parkway by a Screech Owl who rashly leaped to the conclusion that I was an ornithologist and therefore dangerous both to her brood and her nest. Half a dozen times she dashed by on angry wings so close to my face that I feared for my eyes. And it was only last spring that a Barred Owl came to grief in the Zoological Park, in the wise:

On three successive mornings, the men of the Bird House found that during the night something with saw-like beak and claws had caught several song birds in the outside cages *through the wire netting*, killed them and partly devoured them. Swearing vengeance, the keepers cunningly laid a trap on the roof of the cages, consisting of a dead bird nearly surrounded with an environment of limed sticks, like a score of lead pencils. In the cold, gray dawn of the morning after, the avenger was found, helplessly flopping around

the cage roof, the Barred Owl bird-murderer with limed sticks all over him, wondering what had happened to him, and why he was quite unable to fly.

Not for long was he left in doubt; for the keepers of song-birds believe in the survival of the fittest.

Throughout the Hudson valley, but not counting the Adirondacks, the ground game

WILSON'S SNIPES.
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ROBIN.



BLUEBIRD.



RED-WINGED BLACKBIRD.



LOGGERHEAD SHRIKE.



ROSE-BREASTED GROSBK.

birds are to be reckoned with the things that have been, rather than the things that are. While it is true that the **Ruffed Grouse** and the **Bob White** are not by any means extinct in eastern New York, so very few remain they are hardly to be taken into account. Elsewhere in New York state, there are localities in which the shooter may find some of these birds to shoot; but here he can only "hunt" for them, and sagely wonder why they exist no more. It is high time to enact a ten-years close season for both the species named above.

The breeding of wild birds in captivity is now attracting much attention, and the propagation of gallinaceous game birds in preserves, as a legitimate industry, is directly in line with the preservation of our small remnant of Bob-White, Ruffed Grouse and Pinnated Grouse.

There are two habitants of the Hudson Valley that we could lose only with keen regret, but both are gradually fading away. The nocturnal **Whippoorwill** is known by his picturesque and far-reaching twilight song,—or whistle,—for the call surely belongs in the whistle class, and it is easily imitated by any good whistler.

When the mantle of night has fallen over the few country places that remain in the East, and the busy world is still, those who dwell in summer near quiet woods often hear a loud, clear and altogether melodious whistle from somewhere near the barn. As plainly as print it says, with sharp emphasis, "*Whip-poor-Will*;" and repeats it many times. Before each regular call there is a faint "chuck," or catching of the breath, strong emphasis on the "whip," and at the end a clear, piercing whistle that is positively thrilling.

Sometimes the bird will perch within thirty feet of your tent-door, and whistle at the rate of forty whippoorwill's to the minute. Its call awakens sentimental reflections, and upon most persons exercises a soothing influence. It has been celebrated in several beautiful poems and songs.

This bird,—like the next species to be mentioned,—is strictly insectivorous in its food habits, and renders excellent service to man. In perching it chooses a large and nearly longitudinal limb, on which it sits lengthwise, in close imitation of a bark-covered knot.

The Night-"Hawk," is closely related to the preceding species, but is very far removed from the real hawks. The Whippoorwill is known by being heard, through darkness, but the Night Hawk strongly appeals to the eye. When the western sun is far down, and the evening air still, watch for a dark-colored bird with long and sharp-pointed wings gracefully cleaving the air three hundred feet above the earth. It has a large white spot under each wing, and is busy catching insects in mid-air, of a surety the bird is a Night-Hawk.

But for one thing, we could wish that we could have been the official naturalist of the "*Hall's Moon*," and seen all the birds that Hudson saw, and that is,—we would much rather be alive to-day. Thanks to many factors, the Hudson valley has not yet been seriously denuded of its forests; but for all that, the status of wild bird life within it has greatly changed for the worse. The waterfowl and the gallinaceous game-birds have been almost annihilated; and of the herons, egrets, plovers, sandpipers, and large bird forms of every kind, it is probable that less than one one-hundredth now remain.

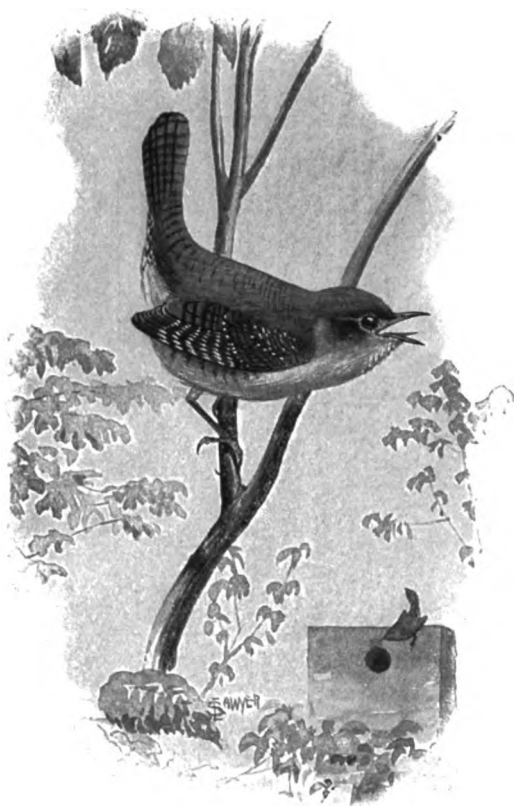
To a great extent, this is the inevitable result of the settlement of a virgin wilderness by a seething mass of predatory, bird-killing, wild life-destroying human population; but at the same time the cultivated fields and fruit trees have brought a population of insectivorous birds probably much greater than that which existed here in the days of the forest primeval.

Of the birds that were abundant four hundred years ago, the Great Auk, Labrador Duck and Passenger Pigeon are now totally extinct. The Trumpeter Swan, Carolina Parakeet, Whooping Crane and Heath Hen are on the verge of extinction, and very soon will join the Great Auk and the Dodo. In exchange for the North American species that are wholly or nearly gone, we have acquired—what? Ahab, the English Sparrow, and the Starling,—no more.

Today the lovers of wild life are engaged in a hand-to-hand struggle with the grand army of annihilators, to save at least a respectable remnant of our wild life and forests for the millions of Americans who come after us. It will be well for us if we so discharge our obligation that posterity will not have cause to heap curses upon us for our improvidence, and for our dereliction in the duties of good citizenship.



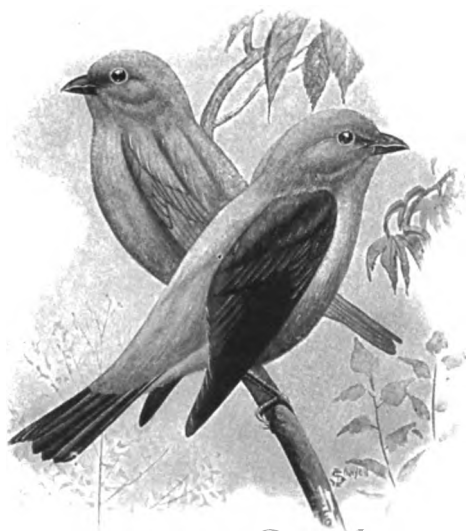
BALTIMORE ORIOLE AND NEST.



HOUSE-WREN.



PURPLE MARTIN.



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SCARLET TANAGER.



GOLDEN-WINGED WOODPECKER.



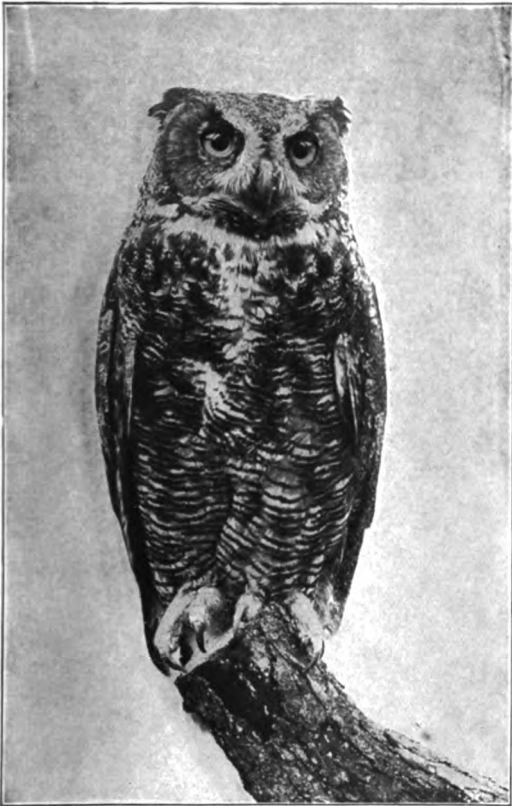
RED-HEADED WOODPECKER.



SCREECH-OWL.



Copyright, 1902, by W. L. UNDERWOOD.
BARRED OWLS.



GREAT HORNED OWL.

With "horns" laid back in anger.



EASTERN RUFFED GROUSE.

the finest gallinaceous game bird of the northeastern United States. Still fairly abundant in the Adirondacks, and the wilder portions of the Catskill region. It is much in need of a ten-year period of absolute protection.

THE IRREPRESSIBLE CONFLICT.

The warfare for the protection of wild life should be just as constant and unremitting as is the manufacture of cartridges. If anyone who reads the literature of the wild-life protectionists is impressed by the repetition of the arguments and exhortations set forth, let him remember that the men who make guns and cartridges work constantly, and know no such thing as weariness. A competent authority has estimated that in the United States there are sold each year about 500,000 *shot-guns* and 7,000,000 *loaded cartridges*!

More than this, every year sees new and more deadly guns invented and placed upon the market, for the more rapid and effective slaughter of wild creatures. The great desire of the gun-maker is to give the game absolutely no chance to escape. To-day the perfection of long-range sporting rifles is so great it is difficult to find a man or twelve-year-old boy so unskillful that he cannot go out into the haunts of big game and kill a good "bag." Several American women have killed huge elephants in Africa, and many a boy in his early teens has killed his moose in Maine, Canada or New Brunswick,—all through the deadly perfection of modern repeating rifles.





CAT-BIRD.

HOW TO BRING BACK THE BIRDS.

In the restoration of depleted wild life, Nature is kind and long-suffering. Up to a certain point, man's destructiveness is forgiven, and the damage is repaired. But the slaughter must not go too far, or the damage will be beyond repair.

One of the most remarkable of the mental traits of wild creatures is the marvelous quickness with which they become aware of the fact that they are protected, and that within certain boundaries their lives are secure. When protection is declared they forgive and forget the slaughterings of the past, and begin life anew. When peace has been established, even the wildest and variest birds, such as wild ducks that have been long harried by gunners, learn of it in an incredibly short time.

In the Dakotas, during the close season the wild ducks live near the haunts of man in a way that the killing season quickly renders fatal.

To country dwellers, many ways are open whereby they can increase the volume of bird life. Let us enumerate a few of them:

Every farm and wood lot should be posted by the owner or occupant, sternly forbidding all shooting and trapping thereon.

Every country dweller should see to it, by force of arms if necessary, that throughout his sphere of influence the laws protecting wild life are strictly enforced.

Certain wild birds should be fed, especially in winter. For the Bob-White and Grouse, put out corn and wheat screenings. For the Woodpeckers, Nuthatches, Chickadees and others of the hardy "winter residents," nail to the tree-trunks many strips of fat pork and chunks of suet. The services that those birds render your

trees are well worth the cost of fifty pounds of pork.

The Ducks, Snipe and Woodcock need only wet ground, water and protection.

To encourage Wrens, put up nest-boxes with holes so small that the English Sparrow can not enter them. A silver quarter will give you the right size for a Wren hole; but punch holes in the bottom of the can or box, so that all water that runs in will also run out.

Shoot the English Sparrows from your premises, and better birds will take their places.

If a bold-hearted Robin elects to try wintering near you, feed him in winter, without fail. It is safe to say that many species of our song and insectivorous birds could easily survive the cold of our winters if they could obtain a constant supply of food. It is not the cold that drives them South, but the annual failure of their food supply.

For all game birds, the great action to be desired and sought is the enactment of ten-year close seasons, covering wide areas. To this the men who think only of to-day, and scoff at "the future," will strenuously object. They would rather annihilate the remnant to-day than have an abundance ten or twenty years hence. But they represent the spirit of destruction, and the wastefulness of the resources of Nature. We are in no way bound to respect their views or their wishes. If the annihilators were given free rein, twenty-five years hence would see the United States as barren of bird life as the Desert of Sahara.

During the past ten years the champions of bird life have made their influence widely felt. In many a hard-fought contest the destroyers have been routed, horse, foot and dragoons; and we believe that on the whole, the American people have "not yet begun to fight" for their birds.





Painted by CARL RUNGJUS.

WHITE-TAILED DEER.

THE WILD ANIMALS OF HUDSON'S DAY.

PART II.—THE MAMMALS.*

THE wild mammals today inhabiting the Hudson valley are but a pitiful remnant of the original stock that flourished here three hundred years ago. Head by head, they represent merely the individuals that man, the cruel annihilator, has not been shrewd enough to find and kill. They do indeed represent the survival of the fittest in "civilized" environment. Think of a civilization so cruel that it must curb, by the stern hand of the Law, many of its members from killing does and fawns, from laughing gray squirrels and song birds for food," from robbing birds' nests, and exterminating wild life, generally.

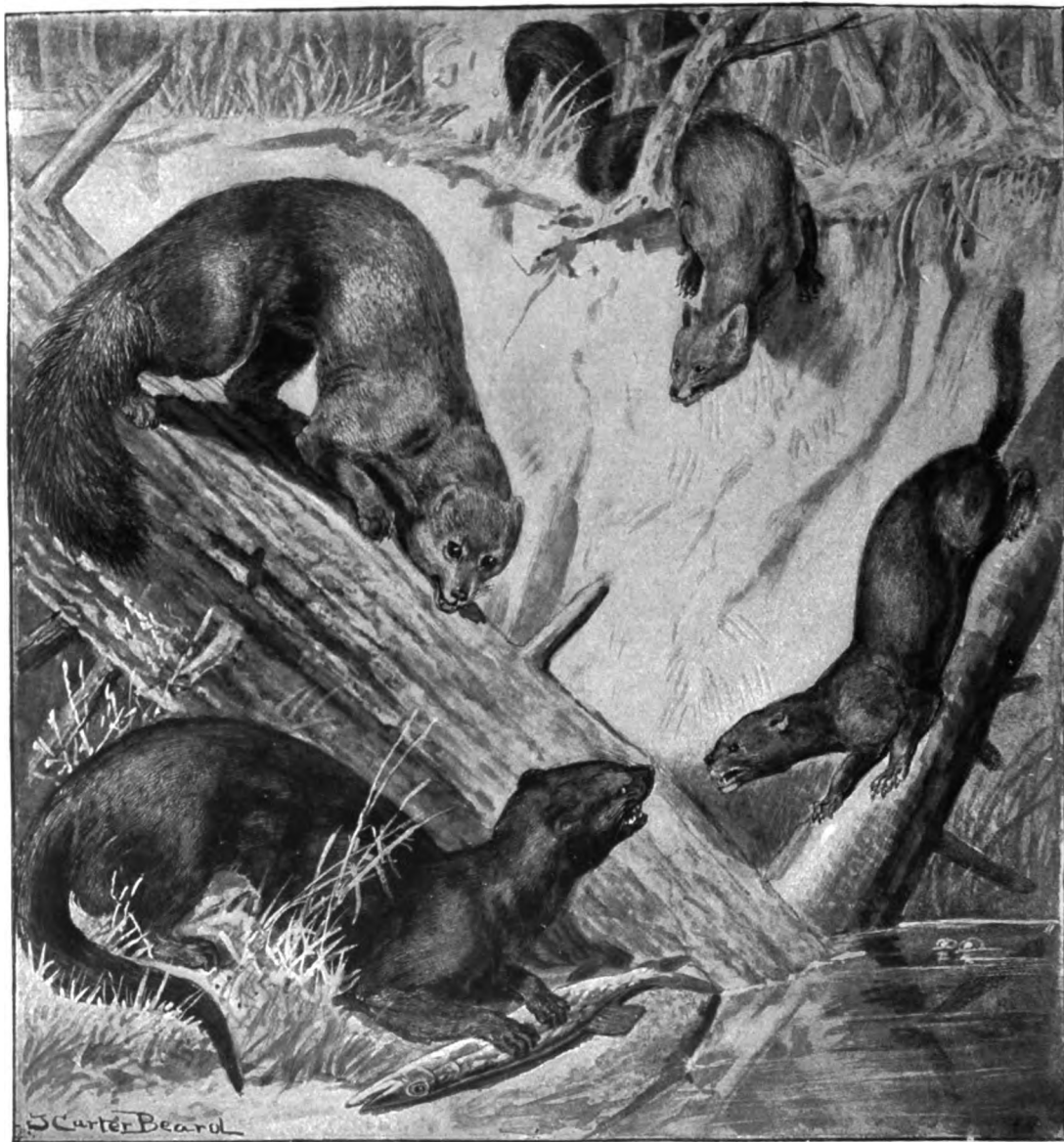
So far as wild life is concerned, there are no greater savages, living or dead, than five per cent. of the people who wear the garb of "civilization."

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We repeat that every wild animal now alive in the state of New York owes its existence to its own skill in hiding, and in living in defiance of dangers and difficulties. The only species that has been for even a score of years under the law's protection is the **White-Tailed Deer**, or **Virginia Deer**, which, but for its marvelous cunning and skill in woodcraft would long ago have been exterminated with the elk and moose that once inhabited the Adirondacks.

Of course the White-Tailed Deer flourished abundantly in the days of the "*Half-Moon*." We can imagine that almost anywhere along the Hudson where the banks were generously planted with brush and timber, three centuries ago a hunter could have landed on the shore and in an hour brought back a deer. Even during the past two years, two wild White-Tails have been caught alive while swimming in the Hudson River, and one is now on exhibition in the Zoological Park.

So far as we know, the only wild game of the Hudson valley that came aboard the "*Half-*"



1. OTTER.

2. FISHER.

3. MARTEN.

4. MINK.

Moon" was the flesh of a White-Tailed Deer. It was when that venturesome vessel reached the head of navigation of the Hudson River, probably near Troy, that the explorers found the Indians "very pleasant people." The Savages came on board, and brought "a great Platter of Venison, dressed by themselves; and they caused him [Hudson] to eat with them; then they made him reverence"; and after all this had been accomplished, on September 23, the "*Half-Moon*" started to return down the Hudson. At the Highlands, other Indians came aboard, and

"brought some small skinnies with them, which we bought for Knives and Trifles."

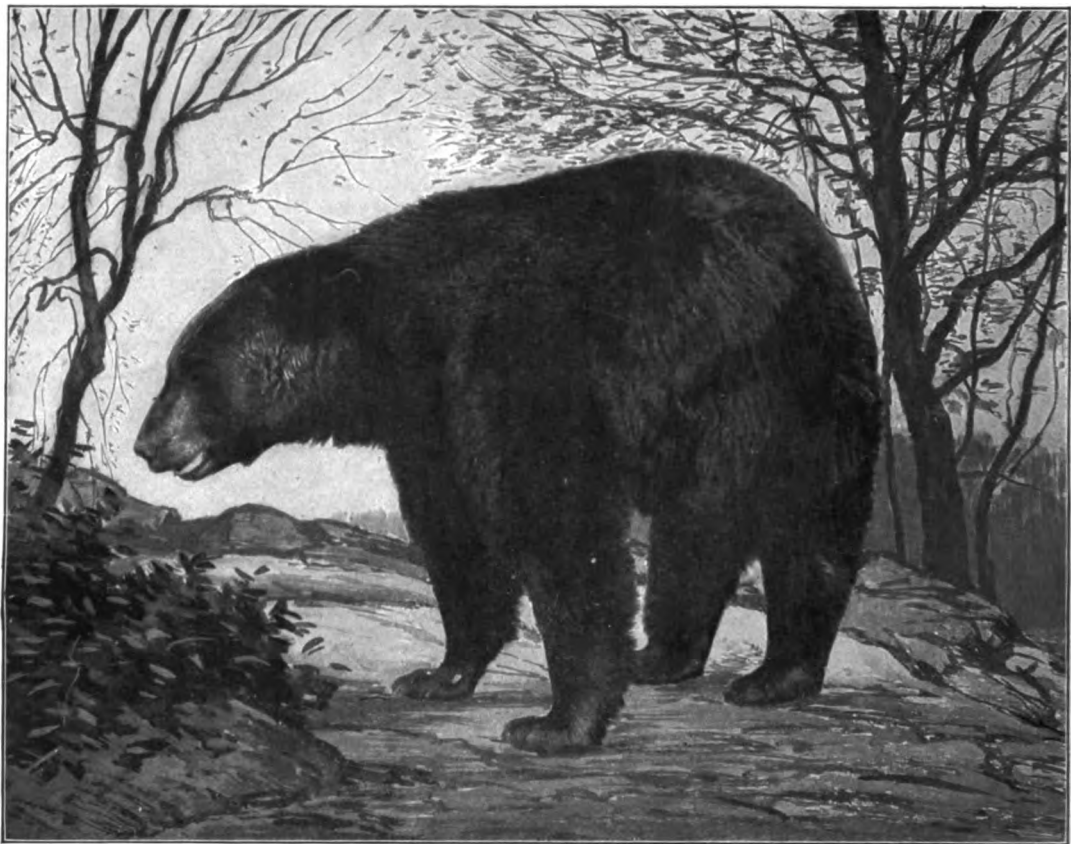
For two centuries the White-Tailed Deer was the best wild friend of the American pioneer. Many a brave family "on the frontier," fighting the wilderness and the Indians for the thing most dear to the native-American heart,—a free Home,—would have gone hungry, and perhaps found life actually insupportable, without the succulent flesh of the ever-faithful White-Tail.

It was indeed most fortunate for the American colonists that it was of almost universal distri-



AMERICAN BEAVERS AND THEIR WORK.

The dam, and house of sticks in the middle of the pond, are exact reproductions of those works in the Beaver Pond of the New York Zoological Park, as they were at the time this drawing was made.



AMERICAN BLACK BEAR.

bution throughout the timbered portions of the eastern United States. It is because of the important part played by the White-Tailed Deer in our colonial development that today we give its portrait the place of honor on our title page.

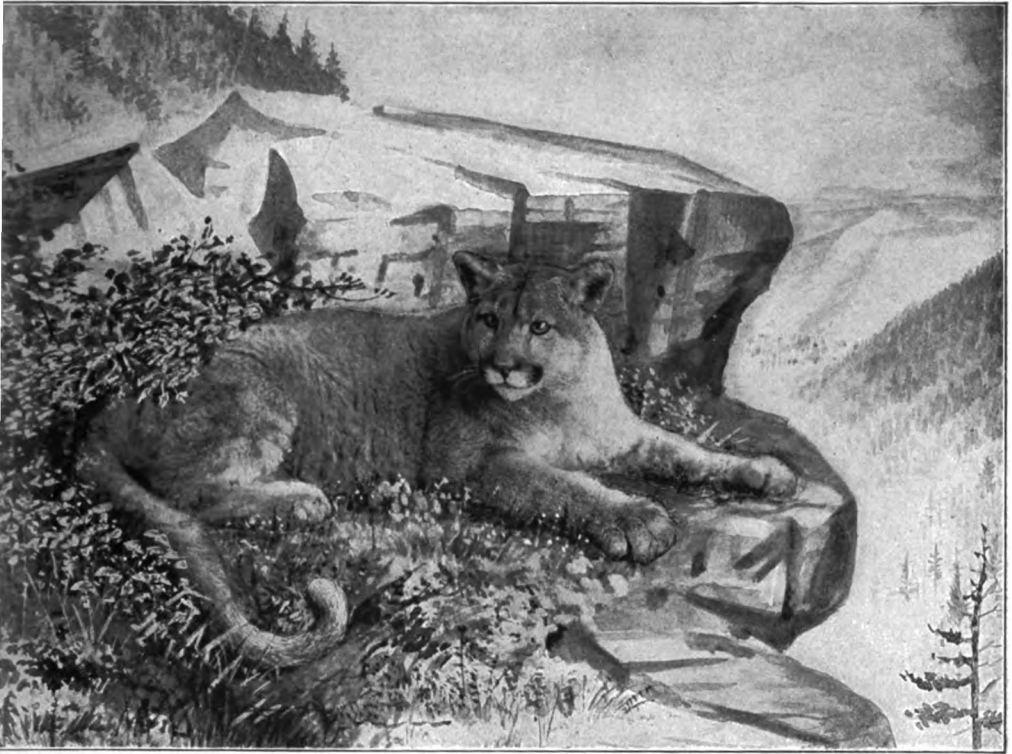
We are heartily glad that this is the most persistent species of all North American big game. It does not glory in the exhibition of its fine proportions at the risk of its life. On the contrary, it seeks the densest woods and brush cover that it can find, noiselessly steals through it with head and neck carried low and pointing straight forward, and leaves the honest and sportsmanlike still hunter only a trail of heart-breaking dimness. Thanks to wise laws and their rigid enforcement, the state of Maine today contains perhaps 100,000 White-Tailed Deer; and the hunting of the male "increase" furnishes legitimate sport for 3000 men, and an annual revenue to the state of more than \$1,000,000.

In our beloved Adirondack wilderness, this deer still exists; but it has been shot far too much. There are localities that now should be

alive with deer, but in which none are to be found, save at very long intervals. During the past ten years, protection has had the curious effect of bringing a wave of deer migration from the north down through Connecticut to the Sound, and down the Hudson valley actually to the northern boundary of New York City. We possess a wild female that was caught at Yonkers!

The first wild-animal products of our coast that came into the hands of Hudson were fur offered in trade by the Indians of the coast. The historian says that "many brought us Beaver skins, and Otters skins, which we bought for Beades, Knives and Hatchets."

In the days of the colonists, the first traffic with the Indians was for their corn and furs. Beyond all doubt, the first products of the Hudson valley that crossed the Atlantic were Indian-caught skins of Beaver, Otter, Marten, Mink and Muskrat. In early times, the Fisher was also among those present, but never in great abundance, and it soon ceased to be



mission of *Outdoor Life Magazine*.

THE PUMA, OR MOUNTAIN "LION."



right, 1902, by W. L. UNDERWOOD.
THE RACCOON.



Copyright, 1902, by W. L. UNDERWOOD.
BAY LYNX.



WOODCHUCK.

prominent feature of the fur trade of the middle colonies. It is but natural that the men who risked so much in venturing to America, 300 years ago, should desire to carry back something that could be converted into cash. It was the animals named above that laid the foundations of the American fur trade, generally, and of the Hudson Bay and North American Fur Companies, in particular. It would take long columns of figures, in large sums, to represent the part played by the fur-bearing animals named above in the commercial development of the American colonies.

But there is one very interesting fact in this connection that we must set down. Of all the fur-bearing animals of the Hudson valley, the most persistent today are the Muskrat and the Mink. Strange as it may seem, for ten years they have been to the New York Zoological Park, jointly and severally, a great nuisance.

For eight years, or during the existence of several piles of large rocks near our northern boundary, wild Minks have raided our bird collections, and slaughtered Gulls and other fish-eating waterfowl at a rate that was most exasperating. From 1900 to 1906 we killed in

the Park, annually, from three to five Minks and they killed annually from ten to thirty of our birds. Now that their shelter rocks are gone, and the most of the Minks have been trapped and killed, we have peace.

Muskrats have been so abundant in the Bronx River and Bronx Lake, within our own grounds, and have done so much damage to our valuable aquatic plants, we have made war upon them in self-defense. In the winter of 1908-9 a member of our force caught 23 of them, in our own waters.

The Otter once was abundant in the Adirondacks, and its range extended thence southward without a break to central Florida, where it still persists in living. It still is found occasionally in the North Woods, but it is doubtful whether it survives today in the Hudson valley anywhere south of Troy. So rare is this species throughout the United States it is no longer possible to secure alive and unhurt by traps a number sufficient to stock the largest zoological garden of the eastern states. The steel traps, mills and sewage of civilization are too much for an animal that is dependent upon streams of water for



CANADA PORCUPINE.

colonists of eastern New York; but gradually they all disappeared from practically every portion of New York save the Adirondacks and the Catskills. Strange to say, the largest animal of this trio, the Bear, has been most cunning and successful in resisting extermination. While the Puma is entirely extinct in this State, and the Canada Lynx practically so, the big and burly Black Bear joyously holds on, both in the Adirondacks and the Catskills. The familiar Bay Lynx still is in our midst, and one was seen in the Catskills, by H. W. Merkel and A. P. Dienst, in the spring of the present year.

The Raccoon once was an animal of practically universal distribution throughout the wooded portions of New York state, but its place in the list of fur-bearing animals has been fatal to its continued abundance. It still lives, however, even numerously in places, and still may be regarded as one of our most common quadrupeds of medium size. Firmly and persistently, it refuses to be exterminated, and so long as the forests remain, it will live to inhabit them. Today its fur is really valuable,—because better furs are so rare.

The members of the Order of Rodents, or gnawers, are today our most abundant wild

ood and its life, and yet is not nearly so t in hiding as is the muskrat and the mink. en abundant and unmolested, the Otter es itself by establishing a "shoot the s" of its own, on a steep and slippery bank, g in a water plunge. The Otter "slides," he games played upon them, are well known appers and others who have lived or hunted e Otters were abundant.

the time of Hudson, there were probably million Beavers living in what is now the : of New York. About 1670 the Dutch ince of New Netherland annually furnished he fur trade 80,000 Beaver skins, and in 3 the Beaver was formerly incorporated in seal of that colony.

n 1860 the Beaver had so nearly disappeared n the Adirondacks and the Hudson valley : even in the former locality the total num- alive was estimated at only 60 individuals.

1895 this had fallen to "5 or 10." Since t date, 34 individuals have been set free in Adirondacks, chiefly through the efforts of rry V. Radford, and they are slowly restock- : the North Woods.

The Black Bear, the Puma and the Canada nx once thrilled, and at times terrorized, the



FLYING SQUIRREL.



GRAY SQUIRREL.

quadrupeds; and we are thankful that none of them yield "fur!" Thus far the rapacious maw of the "fur trade" has not demanded the skins of the Woodchuck, Gray Squirrel, Chipmunk, Flying Squirrel or Red Squirrel. But whenever any of those species are definitely placed in the class of fur-bearing animals, their doom is sealed. At present,—when not easily found and killed,—they are permitted to live and make glad the waste places.

Even the finest forest is half dead if it be destitute of the vital spark that wild-animal life alone can give.

In cheerful companionship and popular interest, the Gray Squirrel would be worth half a million dollars a year to the people of New York—if they would but let it alone! But

where is the Gray Squirrel today? You may ride or drive in midsummer from one end of New York to the other without finding a single one alive, unless it is in a protected park!

Americans are queer animals. There are men and boys who still think it is "sport" and "hunting," to shoot squirrels,—under less difficulty and danger than would lie in picking chickens in a farmer's orchard! And Americans actually *eat* a rodent with flesh as rat-like that the white men of all other nations



EASTERN RED SQUIRREL.



EASTERN CHIPMUNK.

decline it. I refer to the Gray and Fox Squirrels.

It is indeed high time that the Gray Squirrel should be perpetually protected, everywhere throughout this gun-ridden state.

The delightful little **Chipmunk** is a thing of beauty, and its cheerfulness is a perpetual joy. Being very small and commercially valueless, it has not been pursued quite so persistently as



RED FOX.

the larger squirrels and rabbits; but for all that, the cat and the bad boy have made it rare everywhere outside of parks.

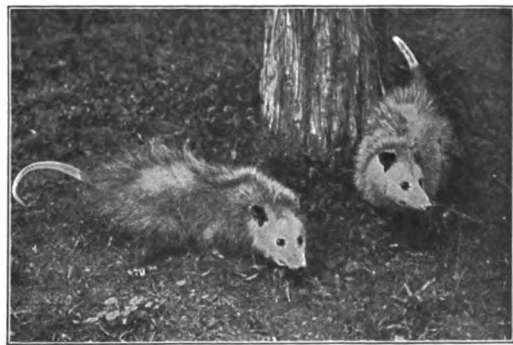
In the Zoological Park, it is really pathetic to see how quickly the wild creatures respond to protection, and make friends with those who will not permit them to be molested. Take the **Gray Rabbit**, as an illustration.

Eight years after the opening of the Park, Gray Squirrels, Chipmunks and Gray Rabbits had become very numerous within it, and almost fearless! In June, 1909, at midday, a wild Rabbit very leisurely hopped past me as I came out of my office, not more than twenty feet away, quite as confidently as if he owned the whole place. At fifty feet, all unafraid he halted close beside a big oak tree, in full view of fifty persons, leisurely examined the ground, and presently loped on across the grass into the shrubbery.

The reason? Our grounds are the only wooded lands in northern New York City in which stray dogs, cats, poachers and other vermin are not permitted to run at large. Two years ago our Chief Forester estimated that 75 wild Rabbits were living and breeding in our grounds. Of chipmunks we have hundreds, and of Gray Squirrels at least fifty. Needless to say, the children and all other people who love animals, are greatly interested by them.

The **Great Northern Hare**, gray in summer and snow white in winter, and once abundant, is now so rare that only the skilful "upstate" hunter can find one, in swamp or wilderness far from the haunts of men. It is a pity, too; for because of its great scarcity, and the fact that it does not thrive in captivity, this fine animal is almost as unknown and mythical to the vast majority of persons as the gya-cutus.

By his continued existence in spite of traps, hounds, and guns of all sorts, the **Red Fox** has ably and satisfactorily demonstrated his right to live. Any sane person who knows the tremendous difficulties and dangers amid which any Fox of "civilization" lives and breeds, surely will not ask, as a serious question, "Do Foxes reason?" Excepting the real lovers of nature, every man's hand,—and firearm also,—is against him. The farmer hunts him for revenge, the trapper for his pelt, the hunter for sport. And yet, compared with that wonderfully sharp nose, and those keen eyes and ears, wireless telegraphy is slow and uncertain. Were it not so, there would not be today one living Red or Gray Fox this side of the Adirondack wilderness; but as it is, both those species joyously live and breed, even up to the very boundaries of the most populous city of America.



VIRGINIA OPOSSUMS.

In the distribution of the Marsupials, or mammals with abdominal pouches for their young, Nature almost overlooked North America! We have only the **Opossum**, nocturnal, and so unobtrusive that in the northern United States it has reduced self-effacement to an exact science.

Some naturalists suppose that the most remarkable thing about this animal is its pouch

but that is not the case. The strangest thing is that it knows enough to *feign death* in order to escape injury. I know, because in my boyhood days an Opossum deceived me so completely and thoroughly that I have not yet fully recovered from the shock. The animal very nearly escaped through the trick that it so skilfully played upon me; and since that day I have wished a thousand times that I had given that Opossum its freedom, as a reward of merit. But I did not think of it in time.

If our wild animals possessed as little reason and foresight as some men, all of them would have been killed or starved to death long ago.

PRESENT STATUS OF BIRD STUDY.

During the past ten years, the status of bird-study in America has undergone an important change. Yesterday was the day of the old-fashioned ornithologist,—diligent in the killing of birds in great numbers in order to study their geographic, seasonal, sexual and other variations, and also diligent in the differentiation of new forms. At the same time, under the sheltering guise of "scientific purposes," hundreds of thousands of the eggs of wild birds have been collected by unscientific men and boys, and stored away in dark cabinets,—to very small purpose.

The total number of birds and eggs collected during the past fifty years in the sacred name of science must be something enormous. Perhaps two per cent. of the entire slaughter have served genuine scientific purposes; but we doubt it.

To-day, it is no exaggeration to say that a large number of the people who are keenly interested in the birds of North America are weary of the once-popular studies of minute geographic variations, the making of new subspecies, and the vexatious changing of scientific names that, like the brook, seem destined to go on forever. The English names of our birds are in fact more stable and useful than those bestowed by the scientists.

To-day, the demand of the hour is for the utilization, in practical ways, of the enormous mass of American bird-lore that has been accumulated. *The unscientific millions desire to know about our birds the facts that are useful to man, and helpful to the birds.* Very unfortunately, the schools and colleges in which the foundations of natural-history teaching should be "truly and firmly" laid, as befits every foun-

dation stone, are sadly blundering in the business of teaching teachers how to teach. As a whole, the situation is in a most unsatisfactory state. But the nature teachers are at least aware that something is wrong; and that is the first promise of better things. It is high time for even the dullest person to see that long and weary weeks spent on the anatomy of the grasshopper, butterfly, beetle and amoeba are not in line with the desires of bright boys and girls who want to know which are the most interesting, the most useful and the most injurious birds, mammals and reptiles of our country.

The study of natural history in public schools and colleges could be made as musical as Apollo's lute; and let us hope that some day it will be. Meanwhile, there is one great lesson that all may learn. It is this:

It is not always necessary to destroy wild life in order to study it. The study of birds can better begin with a bird book and a pair of sharp eyes than with a gun and a bushel of cartridges. The study of birds' eggs is a right, provided the birds of today do not have to pay the whole cost of it in fresh eggs. In the United States, the killing of birds for "scientific purposes" is now very rarely necessary or justifiable.

The most advanced ornithologists of the present day are devoting their best attention to the study of living birds, and their relations to man and kind. Practical aviculture is teaching many new and useful lessons which the study of skins and skeletons never have revealed. Dr. C. William Beebe, experimenting at the Panama with live birds kept in atmospheres of varying degrees of humidity, has found that by means of an unusual degree of humidity it is easy to create new and startling "sub-species," literally "while you wait." It is unnecessary to point out the reasons why this discovery is of great practical importance to ornithologists.

Today, the highest duty of every lover of birds is to help protect the birds that remain. Nor is it necessary to have a speaking acquaintance with a bird before taking an interest in preserving it and its kind from annihilation. It is impossible to afford birds too much protection or too much immunity from the forces of destruction. Every child should be taught that without the assistance of the birds that destroy annually millions of noxious insects, rodents, and tons of seeds of noxious weeds, our country soon would become a barren waste.



LARGE BIRD-HOUSE AND ITALIAN GARDEN IN BAIRD COURT.

THE ZOOLOGICAL PARK OF OUR DAY.

By WILLIAM T. HORNADAY.

Photographically illustrated by ELWIN R. SANBORN.

DESPITE the greed and blood-lust of man, civilized as well as savage, this gun-ridden world still contains a marvelous array of wild life. It is right to speak of the animate portion of Nature's works as the animal kingdom. Man himself is the king of beasts, but there are many assistant kings and princes and potentates, some of which are in certain ways almost as interesting as himself.

Even in this day of endless travel and travelers, it is not everyone who can go to the ends of the earth; and of the human millions, only a very small percentage can make it possible to see many wild creatures in their haunts. Yet do people of intelligence desire to know the wild life of the world; and so we have systematic collections of animals, living and dead.

The highest function that any wild animal can serve, living or dead, is to go on exhibition,

as a representative of its species, to be seen and studied by millions of serious-minded people.

The imperial City of New York presents to the world her Zoological Park, and invites mankind to behold in it a huge living assemblage of beasts, birds and reptiles, gathered from every region of the globe, kept together in comfortable captivity, and skilfully fed and tended, in order that millions of people may know and appreciate the marvels of the Animal Kingdom. To make a Park and collection worthy of the fauna of the world, and of the metropolis of the New World, has been a gigantic task; but the people of New York have proven equal to it, and the result is now practically complete.

After three years of planning, and ten years of very strenuous work, we say that the Zoological Park is "practically complete;" and so

it is. Wise men will understand what we mean. We do not say that *nothing* more ever will be added, or that in the future no more improvements will be necessary. The actual work of building our Zebra House and Eagles' Aviary yet remains to be done; but both together are but a bagatelle, like the building of a garden summer-house for a stately mansion that is complete and occupied.

These pages are intended only as an invitation to the world to come, enter in and possess the New York Zoological Park. They are not intended as an exhibit of the dry bones of Detail. New York has dedicated to Zoology a princely and priceless domain of land and water, and she has almost unreservedly entrusted it to the wisdom and judgment and vital energy of the men who have made the New York Zoological Society.

On this marvelous site,—the most glorious handiwork of Nature ever placed within, or even near, a great City,—the Zoological Society expended in accommodations for animals a full quarter of a million dollars. That was just ten years ago. Having seen this evidence of good faith, the City of New York then generously—but not extravagantly or foolishly—opened her treasury, pledged her credit, and bore the expense of all the remainder of the permanent improvements. And at the same time, the City began to furnish annually a sum of money sufficient to maintain becomingly the new institution. This was done, not reluctantly nor grudgingly, but with a big-hearted generosity "that made the gift more precious." The work of creating the Zoological Park has not halted for a single moment since the keel of it was laid on November 5th, 1906, when the "Preliminary Plan" was approved by the Executive Committee.

The "Preliminary Plan" of the Director was carefully expanded into an elaborate and beautiful "Final Plan," which was approved by Mayor Strong and the Board of Park Commissioners in November, 1898. It is impossible to overstate the importance of that exhibit of the intentions of the Society to the progress of the Zoological Park. Other builders of American zoological parks may well follow the example of New York in having their future developments planned by competent experts for twenty years in advance.

In round numbers, the Zoological Society has expended on the Zoological Park and its animals about \$475,000; and on the buildings and other "ground improvements" the City has expended a little more than \$2,000,000. And

what is there to show for all this? This is highly condensed answer:

Of large and fine buildings of the first rank of brick and stone, there are to be seen the following:

- The Elephant House,
- " Lion House,
- " Primates House,
- " Large Bird-House,
- " Aquatic Bird-House,
- " Administration Building,
- " Reptile House,
- " Small Mammal House,
- " Ostrich House,
- " Antelope House,
- " Small-Deer House,
- " Pheasants Aviary.

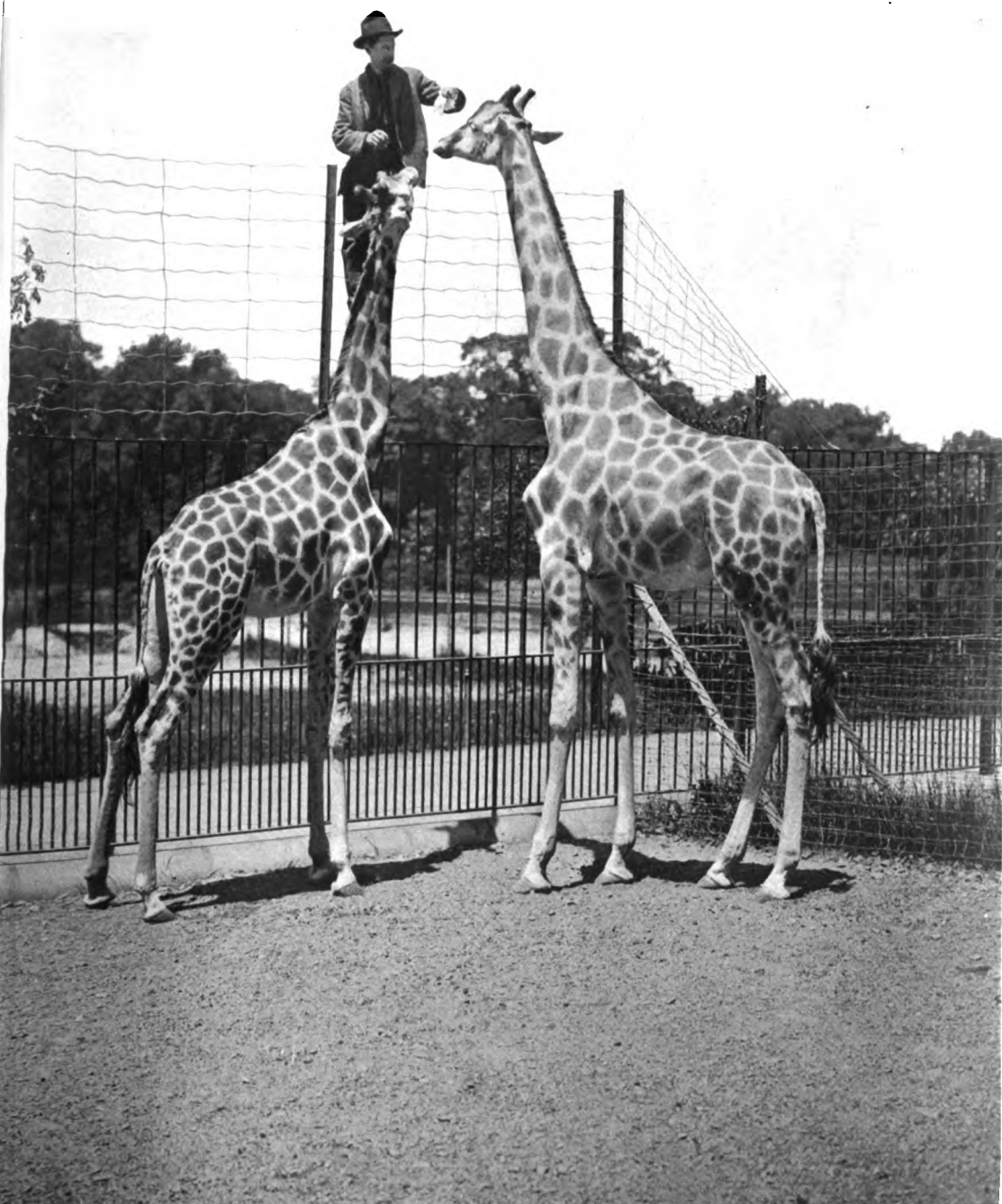
Of buildings of secondary importance there are:

- The Service Building,
- " Asiatic Deer House,
- " Red Deer House,
- " Axis Deer House,
- " Elk House,
- " Camel House,
- " Llama House,
- " Goats House,
- " Buffalo Barn,
- " Feed Barn,
- " Wild Horse Barns (2),
- " Rocking Stone Restaurant,
- " Boat House.

Of open-air installations for wild mammals and birds,—several of them very elaborate and costly,—there are the following important features:

- The Bear Dens,
- " Flying Cage,
- " Wolf Dens,
- " Mountain Sheep Hill,
- " Fox Dens,
- " Sea-Lion Pool,
- " Alligator Pool,
- " Duck Aviary,
- " Wild-Fowl Pond,
- " Otter Pools,
- " Beaver Pond,
- " Burrowing Rodents' Quarters,
- " Prairie-Dog Village,
- " Puma House.

Of all the features named in the three lists given above, all save four are devoted to the systematic exhibition of living mammals, birds and reptiles. The list of secondary buildings gives not even a hint of the unequaled exhibition series of open-air ranges, surrounded by steel posts, steel wire and concrete foundations, that have so generously been provided for our herd



NUBIAN GIRAFFES IN THE NEW YORK ZOOLOGICAL PARK.



THE AFRICAN ELEPHANTS, KARTOUM AND SULTANA.

of bison, elk, wild sheep, wild goats, ibex, and deer of all kinds.

It was an English critic who said that our open-air installations for animals are "at once the envy and the despair of all European zoologists." The finest ranges in the world for captive hoofed animals are those of the Duke of Bedford, at Woburn Abbey, England; and the herds within them are both in variety and in number, wholly beyond compare. But those herds are not on exhibition, and they can be seen only by a special invitation from the owner.

It is to be noted here that of the eleven large and important animal buildings enumerated in the first class, each one save the Reptile House is provided with an elaborate and extensive series of open-air yards in which every habitant has, in mild weather, a daily opportunity to spend hours in the sunlight and the open air, freely exercising or lying at ease in the shade. The elephants and rhinoceroses, the lions and tigers, the apes and baboons, the big African antelopes, the tropical deer, the ostriches and cassowaries, and even the smallest creatures of the many in the Small Mammal House, all have

their out-door quarters, and enjoy them to the full.

For humane men and women there is small pleasure in the contemplation of living creatures that are in prisons, and that look and feel like prisoners, pining behind their bars. Better no "zoos" and no wild animal collections than miserable and unhappy prisoners! *A badly made or badly-kept "zoo," or zoological garden or park, is worse than none.* But, at the same time, it is folly for anyone to say that all zoological gardens and parks are dens of cruelty—as is held by a few extreme humanitarians. The creatures in the collections of the Zoological Park give unimpeachable testimony to the contrary. If our bears, our hoofed animals, our birds and our apes and monkeys are not positively happy, and full of the enjoyment of life, then none are in this world, either captive or free. Today, the life of every free wild creature is constantly filled with alarm, with flying from danger, and with the daily struggle for food, water and safety. Every hunter knows that after every mouthful of food, the wild animal or wild bird looks about for danger.

enemies; and the ultra-humanitarians take small note of the millions of wild lives that are pulled down and destroyed by predatory enemies.

Of the great array of rare and interesting mammals, birds and reptiles today on exhibition in the New York Zoological Park, many pages would be needed to convey of them even a faint impression. The collections have been formed strictly on scientific lines. There are no half-breeds, no "curiosities," and no freaks of any kind save a few albinistic individuals.

On July 15th, 1909, an enumeration of the individuals and species alive and on exhibition in the Park showed the possession of the following:

TOTAL CENSUS OF WILD ANIMALS IN THE ZOOLOGICAL PARK, JULY 15TH, 1909.

	Species.	Specimens.
Mammals	246	743
Birds	644	2816
Reptiles	256	1969
Total	1146	5528

To the average mind, however, these figures convey but a slight impression, even when we state that in individuals we have the largest number (by about 1000) to be found today in any zoological garden or park.

Regarding the quality of our animal collections, a few words must suffice.

By way of illustration, what must the visitor think of a collection of African hoofed animals that contains a Mountain Zebra and Grant Zebra, two species of Elephants, a pair of Black Rhinoceroses, a Hippopotamus, a pair of Giraffes, a Sable Antelope, a Kudu, a Bakers Roan Antelope, an Addax, two species of Gnu, Beisa, a breeding pair of Leucoryx Antelope, an Eland, a Waterbuck and a Wart-Hog?

And what shall be said of a collection of deer that contains a herd of Eld's Burmese Thameng, a herd of Barasingha, herds of Indian and of Malay Sambar; herds of Axis, Sika, Fallow, Red Deer, Wapiti of two continents, Kashmir Deer (Hangul), and pairs and singles of at least a dozen other species?

Consider for a moment the bears,—*seventeen* species, represented by 37 specimens, including four species of the gigantic Alaskan Brown Bear group, represented by seven specimens.

The collections of apes, baboons and monkeys, and of small mammals and large cats, are quite as rich as those mentioned above.

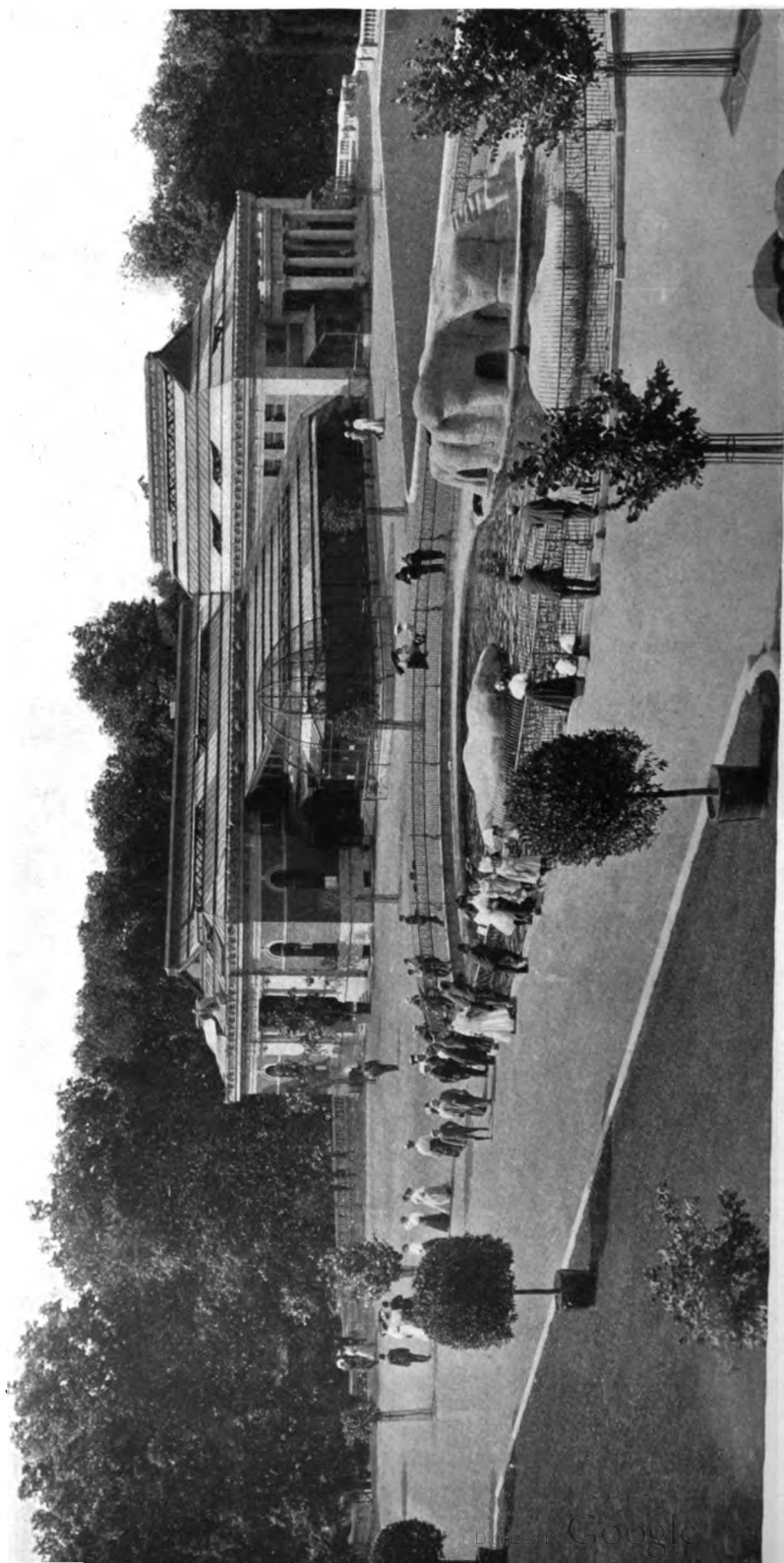
The collections of birds are fairly bewildering in variety and zoological richness. When any Zoological Park exhibits nearly 3000 live birds, of different kinds and sizes, gathered from a hundred different localities, there is no need to comment on the rank of the collection. And when it contains such feathered rarities as the California Condor, Harpy Eagle, Bateleur Eagle, Trumpeter Swan, Whooping Crane, Sun Bittern, Seriema, South American Trumpeter, Gyrfalcon, Sea Eagle, Yellow-Necked Cassowary, Hyacinthine Macaw, Black Cockatoo, Black-Backed Pelican, Ptarmigan, and a hundred smaller varieties, its scientific value is beyond question.

Of reptiles, the array is very comprehensive. It contains five species of Rattlesnakes, the King Cobra, Spectacled Cobra, Bushmaster, Fer-de-Lance, Puff Adder, five species of Crocodilians liberally represented, and Pythons, Boas, Anacondas, small Serpents, Lizards, Iguanas, Turtles, Tortoises, Terrapins and Amphibians in great variety.

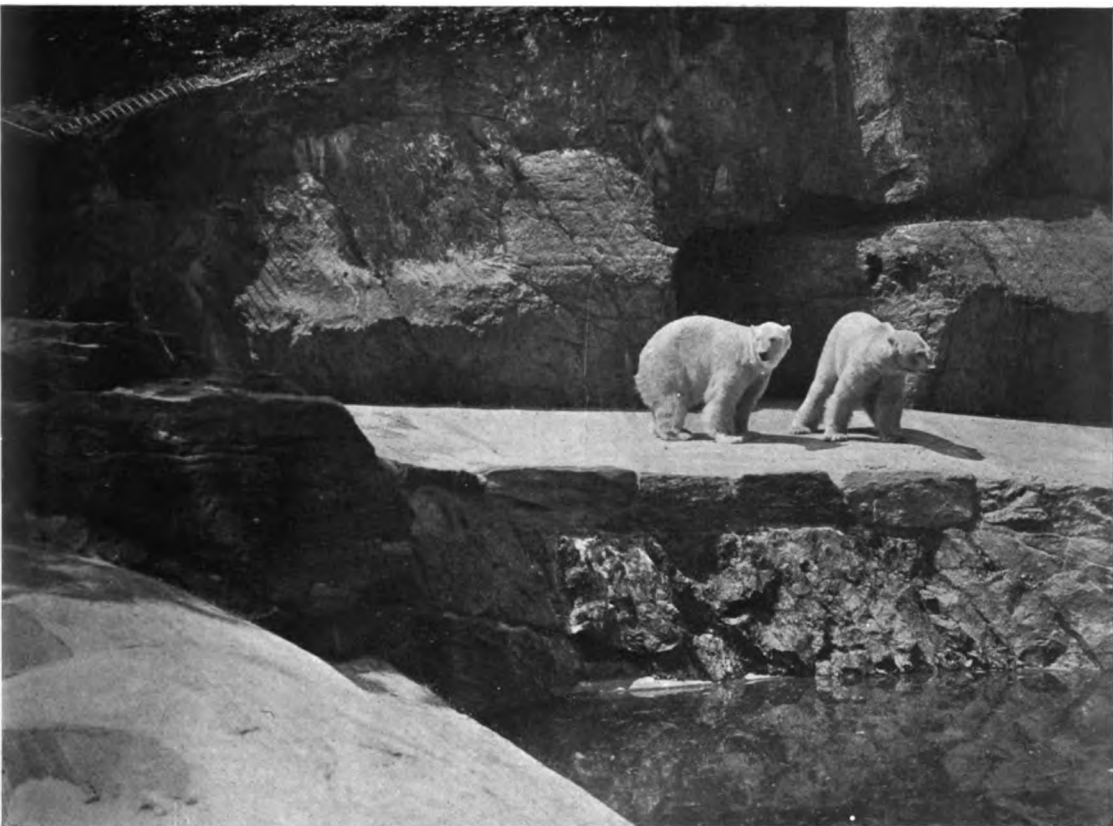
The labeling of the living creatures in the Zoological Park, with descriptions, pictures, maps and charts, is far beyond the best results accomplished in that line elsewhere.

Thanks to the marvelously perfect site of 264 acres that New York City has provided for her exposition of living wild creatures, and thanks also to the wise use that has been made of it by the Zoological Society, the New York Zoological Park is today the foremost institution of its kind. It is no exaggeration to say that it is in a class by itself. Its grounds, its buildings and out-door compositions for animals, are of unrivalled excellence, and in zoological value its collections are now equal to the best elsewhere. This plain statement is made with full knowledge of what the world has done in this field, and what animal collections exist elsewhere. The elaborate official report of Dr. Gustave Loisel to the French government (1907-8) has enabled all the world to know the relative standing and merits of the zoological gardens and parks of the world.

This BULLETIN has been called for by the Hudson-Fulton Celebration Commission as a means of placing before the public certain facts regarding the wild life of eastern New York, and a zoological institution that as yet is inadequately known, even to the people of the Empire State. If the effort that has been made here, by the first City of America, were today anything else than the best of its kind thus far created, then would we need to apologize for a failure.



A PORTION OF BAIRD COURT, NEW YORK ZOOLOGICAL PARK.



POLAR BEAR DEN IN THE NEW YORK ZOOLOGICAL PARK.

THE NEW YORK ZOOLOGICAL SOCIETY AND ITS WORK.

NO institution is greater than the organization that created it.

But for the New York Zoological Society, and the forces that it gathered to its aid, there would today be no New York Zoological Park. Even with the finest building materials ready to the hand of the builder, it is not given to every man, or every organization of men, to rear a monumental structure, and finish it ere the world grows weary of waiting.

Surely the Zoological Society may be regarded as one of the most remarkable of New York's many and diverse human products. Organized in 1895, at a period when to many it seemed as if New York's private philanthropy had been drained to its depths by museums, libraries, hospitals and botanical gardens, the hour of its birth seemed inauspicious. And to a very great extent that handicap did exist, *and remains upon the Society to this day!* The institutions referred to above have been endowed bountifully,

by money given in large sums, and therefore counting up rapidly. But not so this Society. From 1895 to the present hour, no sum larger than \$5,000 ever has come into our treasury from one donor at one time; and the only bequest ever received was one for \$100!

But it was ordained in the beginning that the Zoological Society should succeed, and do much with little. The three declared objects of the Society always have been—the making of a Zoological Park, the protection of our native animals and the promotion of zoology.

The first and by far the most serious of these tasks was undertaken first, and vigorously prosecuted. The result is in evidence, and can speak for itself. The second and third objects have not been pursued as diligently as the first, because of the practical impossibility of conducting three great campaigns simultaneously. Now, however, the scientific work of the Society, and its greater work for the protection of wild life, will be taken up on a new basis.



THE ANTELOPE HOUSE AND ITS OPEN AIR CORRALS.

The original impulse and effort for the creation of the New York Zoological Society came from Madison Grant, then a sportsman and a student of nature, and by profession a lawyer; and very early in its career the new organization secured the active support of Prof. Henry Fairfield Osborn. It is impossible to overstate the influence of those two men on the Society's undertaking, and their devotion to the task, year in and year out. Without them, New York would have at this time no Zoological Park!

I regard the Executive Committee of this Society as the most remarkable body of men with which I ever have come in contact. The manner in which those men of great affairs regularly, and even joyously, left "their mirth and their employment," to spend from two to four hours at a time in hard-working business meetings, month after month, for thirteen years, was, at least one man, both an object lesson and inspiration. Talk about civic pride, and the duties of good citizenship,—the Zoological Park is a lasting monument to that spirit as it exists in the 1666 members of this Society; and in giving this, we only render unto Cæsar the thing that is his.

For eleven years,—1898 to 1909,—the composition of the Executive Committee of the Society remained almost unchanged. Its members were:

Hon. Levi P. Morton, ex-officio, **President** of the Society.

Prof. Henry Fairfield Osborn, Vice-President, Chairman for seven years; now **President**.
Madison Grant, General Secretary.

Charles T. Barney, Chairman for three years, Treasurer four years.

John L. Cadwalader, Counsel.

William White Niles, Attorney.

Percy R. Pyne, Treasurer.

Samuel Thorne.

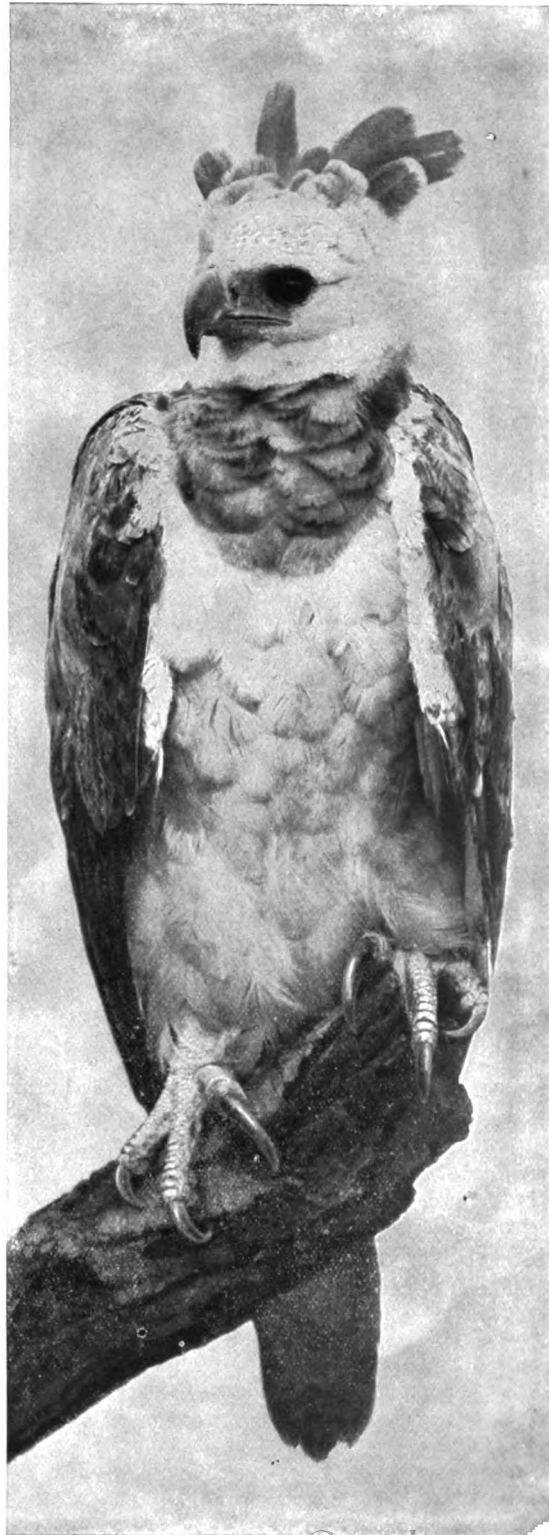
Capt. John S. Barnes.

Gen. Philip Schuyler.

The vacancy caused by the death of Mr. Schuyler has recently been filled by the election of Mr. William Pierson Hamilton.

During the thirteen years of the Society's existence, the Executive Committee has held 169 meetings, and only one of them was without a quorum.

In 1899 the Zoological Society set the pace by expending nearly \$250,000 of its own funds on the erection of the Reptile House, the Aquatic Bird-House, the Bear Dens, Flying Cage and about eighteen smaller installations for animals.





AMERICAN BISON BULL IN THE ZOOLOGICAL PARK.

The people of New York looked at the quality of the work, and saw that it was good. In fact, the public was surprised, both by the magnitude of the plan, and the permanence of all improvements. Then the City of New York cheerfully joined the Society in the remainder of the work. The Society of course was given absolute control of the Park, it furnished all plans, and virtually superintended all improvement work. The Park Department has stood in a position to safeguard all the interests of the taxpayers, and has awarded and superintended all large contracts for construction. Throughout eleven years of rushing improvement business, involving nearly a hundred contracts, great and small, the business of financing and building the Zoological Park has gone steadily on, without a single halt or an unpleasant episode between the representatives of the City and the Society. In their turn, Mayors Strong, Van Wyck, Low and McClellan, and Comptrollers Fitch, Coler, Grout and Metz have cordially cooperated in the work. The Park Department of the Bronx has been most helpful, and we recall with particular pleasure the cooperation of the three

long-term Commissioners, Moebus, Eustis and Berry, and their Chief Engineer and Chief Clerk, Martin Schenck and Gunther K. Ackermann.

While it is impossible to mention here even one-tenth of the generous people who for years or more have loyally supported the Zoological Society in all its undertakings, there are a few whom we must name, regardless of space limitations.

The members of the Executive Committee, a majority of whom have given the Society liberal sums of money, have already been mentioned.

We have received substantial aid from Andrew Carnegie, William Rockefeller, William Whitney, Jacob H. Schiff, Oswald Ottendorfer, Miss Helen Miller Gould, C. P. Huntington, William E. Dodge, George J. Gould, J. P. Morgan, Col. Oliver H. Payne, Mrs. Francis Ferris Thompson, Robert Goellet, George Baker, Edward J. Berwind, Frederick G. Bourne, Charles F. Dieterich, Emerson McMillin, Augustus Schermerhorn, John D. Rockefeller, William D. Sloane, Mrs. John B. Trevor, M. Antoinette Enos Wood, William K. Vanderbilt



THE CALIFORNIA CONDOR.



C. Ledyard Blair, Hugh J. Chisholm, George Crocker, Cleveland H. Dodge, E. H. Harriman, Mrs. Philip Schuyler, Lisperard Stewart, Miss Caroline Phelps Stokes, Mrs. Frank K. Sturgis, Tiffany and Company, Charles H. Senff, Cornelius Vanderbilt, Samuel D. Babcock, James C. Carter and Morris K. Jesup.

In addition to the above there are 38 Patrons, 189 Life Members and 1397 Annual Members whose constant and liberal support fairly entitles each one to honorable mention.

In mentioning the men who have made the Zoological Park, the public owes more than it ever is likely to know—or to fully repay—to the intelligence, the judgment, the constant devotion and the tireless energy of these officers of the Zoological Park:

H. Raymond Mitchell, Chief Clerk and Manager of Privileges.

Hermann W. Merkel, Chief Constructor and Forester.

C. William Beebe, Curator of Birds.

Raymond L. Ditmars, Curator of Reptiles.

George M. Beerbower, Civil Engineer.

E. R. Sanborn, Photographer and Editor.

William I. Mitchell, Office Assistant.

E. H. Costain, Captain-of-the-Watch and Assistant Forester.

One phase of the business relations between the city government and the Zoological Society merits especial notice; and it may well be considered outside of New York as a lesson in material progress.

In nearly every city of the world, the up-building of important institutions either wholly or partly paid for from public funds, is so hedged about with safeguards and checks upon possible dishonesty that oftentimes the rate of progress is distressingly slow.

During the administration of Mayor Van Wyck, Comptroller Coler and Park Commissioner Moebus, it was decided that in the making of "miscellaneous ground improvements,"—a heading which has embraced a-thousand-and-one undertakings of a nature almost impossible to "specify" in advance, and put into contracts,—it was decided that the Zoological Society should have the utmost liberty permissible under the law. As a result, we have been enabled to make *double the progress* with far less expenditure of money, and with 50% better results, than would have been possible under a rigid adherence to the contract system. The work done by men selected solely on their ability and merits, and directed day by day by our own officers, has been the salvation of the Zoological Park; but it was possible only because the city government had faith in the business ability and

integrity of the Board of Managers of the Zoological Society.

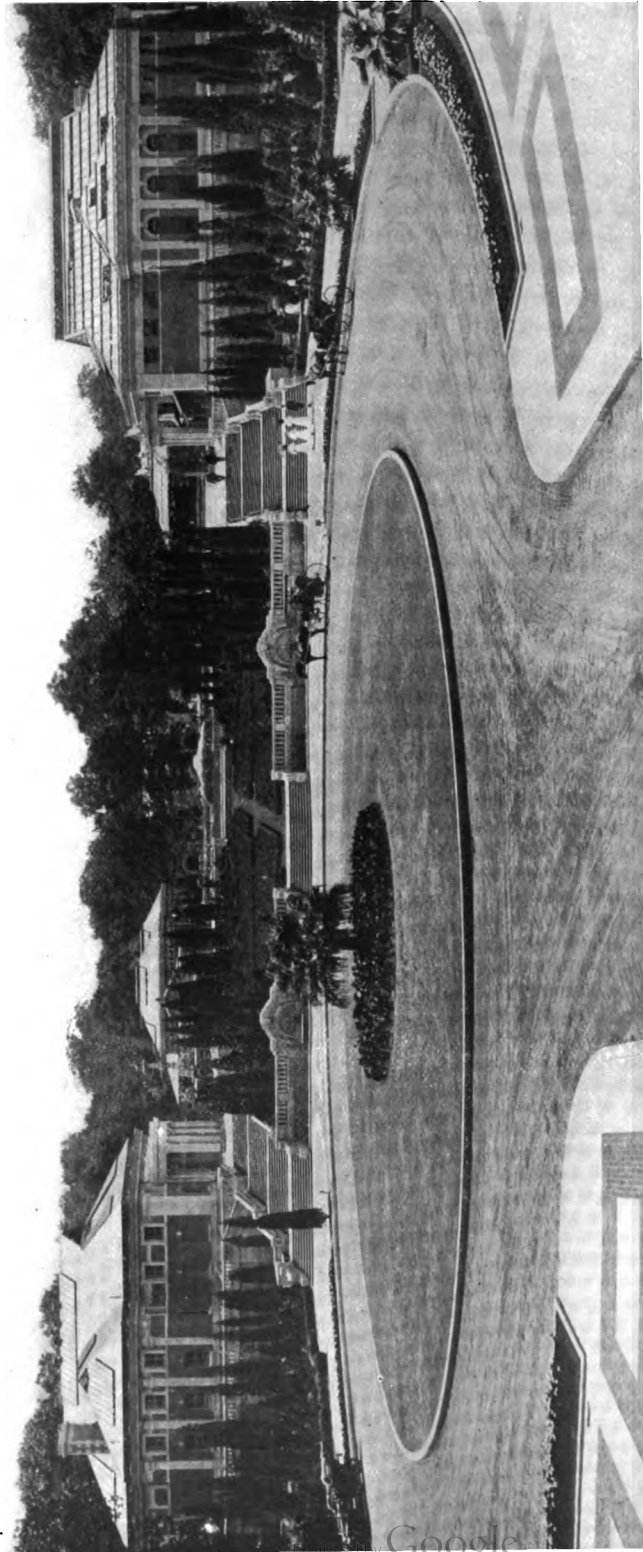
All the animals of the Zoological Park are the property of the Zoological Society, either having been presented by its members, or purchased out of the profits of the privilege business created by the Society through Mr. Mitchell under our contract with the City. The statistics of the collection have been published elsewhere in this BULLETIN.

Now that the Zoological Park is practically complete, the Society must take up more vigorous and extensive work in the field of wild-life protection, and the promotion of zoology. Much important work lies in sight, demanding attention. Nothing short of an endowment fund of \$1,000,000 will enable the Society to do its whole duty in the two fields that it has as yet been unable to enter vigorously. The duty of all zoologists and nature-lovers to the cause of wild-life protection is conceded by all intelligent men, and requires no demonstration save in practical work in the vineyard. The Society desires to devote six thousand dollars a year to wild-life protection; and it is well known that our fast vanishing wild life needs the effort.

But let it not be supposed that during the past twelve years the Society has ignored the cause. On the contrary, ever since 1897 the Secretary and the Director of the Park have put forth a continuous series of efforts, covering game fields in need of work in Newfoundland, Alaska, British Columbia, Mexico, Montana, Wyoming and New York. It would be possible to enumerate several important results achieved in those fields through the efforts of the Society and its officers.

Because of the Zoological Society's satisfactory business methods in connection with the Zoological Park, the City Department of Parks in 1902, requested the Society to assume control of the New York Aquarium, and place it upon a permanent scientific basis. The growth and the character of that institution today are testimonials to the wisdom of the actions which placed it upon a permanent basis, and selected Charles H. Townsend as its Director.

On November 9th, the Zoological Society will enter upon a new period of its history. The completion of the Administration Building, just ten years to a day from the opening of the Park, practically ends the period of strenuous construction, and opens up new fields of labor. With the aid of the endowment fund that the Society has a right to expect, important results may be achieved in the protection of wild life and the diffusion of useful zoological knowledge.





THE HERD ON ITS RANGE.

THE WICHITA NATIONAL BISON HERD.

PRESENTED TO THE NATION BY THE NEW YORK ZOOLOGICAL SOCIETY.

It seems strange that the East should undertake the task of restoring to a permanent basis in the West an important wild-animal species that was destroyed by the men of the West.

Greed and blood-lust is not, like the tariff, a local issue. It is thoroughly cosmopolitan. Wherever there is found an abundance of wild-animal life, there will be found also the buzzards of commerce destroying life and "wrecking" carcasses. It was the men of the West who got up the wild and bloody orgy of the buffalo plains, and left behind them only foul carcasses, poisoned air and desolation.

Strange to say, however, the West has shown little more than a bystander's interest in the effort now being made to establish the American Bison species on national ranges with such a degree of permanency that it will endure for the centuries of the future. Most of the appeals of the Bison Society for contributions from beyond the head of the Ohio River have fallen on deaf ears and tightly-closed purses. The West as a whole has yet to learn what it is to give dollars for the preservation of wild life; but the record of Wyoming and Colorado in feeding starving Elk, last winter, constitutes a fine exception.

For many years, various individuals have urged Congress to "do something" for the Bison. I think it was the efforts of Col. "Buffalo"

Jones, of Kansas, that finally resulted in the establishing of a national Bison herd in the Yellowstone Park. It cost a mighty effort backed by the Biological Survey, to secure through that grand champion of wild life, Congressman John F. Lacey, of Iowa, the sum of \$10,000 for that nucleus.

Later on, the New York Zoological Society conceived the idea of a corporate sacrifice in behalf of the Bison, and proposed to the government a partnership arrangement for the founding of a new herd. The Society offered a nucleus herd of 15 pure-blood Bison as a gift, delivered on the ground, provided the National Government would set aside 12 square miles of fine grazing grounds, on what once was the range of the great southern herd, fence it in, and permanently maintain the herd.

The offer was promptly and graciously accepted, the money involved was immediately voted, and the fence was erected in a very satisfactory manner. Without any unnecessary delay the Zoological Society selected 15 of the finest Bison in the Zoological Park herd, and with most generous aid from the American and Wells-Fargo Express Companies (who carried the herd free of all cost), the gift was delivered at the southern boundary of the Wichita National Forest and Game Preserve in southwestern Oklahoma.



THE ROCKY MOUNTAIN GOAT IN NEW YORK.

In view of the peculiar difficulties and impossibilities surrounding all attempts to induce our mountain sheep, caribou and moose to live on the Atlantic Coast, the successful acclimatization of a herd of Rocky Mountain Goats in the Zoological Park becomes of special interest.

In October, 1905, five kids, then about five months old, were personally conducted from Fort Steele, British Columbia, to New York, and established in and about the rustic Goat House in the southwestern corner of the Park. The flock contained three males and two females,—all of which elected to live and thrive. They were given two well-shaded yards paved with macadam, a brushy hillside of dry earth, and the roof of the barn to clamber over. It was quickly discovered that in this low altitude, the Mountain Goat can not endure rain, especially in winter; and it has been our fixed policy to house the herd whenever a rain-storm appears.

On May 20, 1909, one of the females gave birth to a lusty male kid, which she successfully

reared. Her offspring is now so large, so vigorous and so free with his horns, it has been necessary to saw off the skewer-like tips of his horns for the general safety of the other members of the herd. Little "Philip" is apparently quite as large and vigorous as any wild male goatlet of similar age.

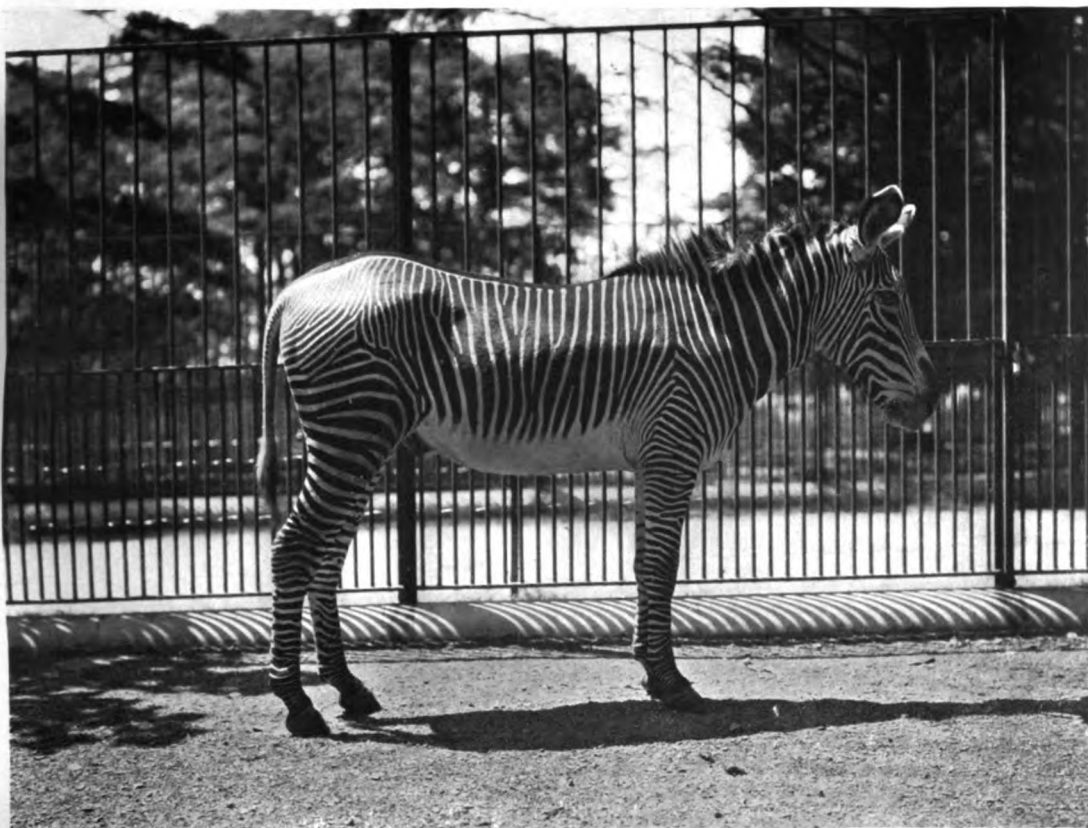
Unfortunately for the mother, her maternity effort at this altitude was fatal to her. After nursing her offspring to weaning-time, she died of what was really a general exhaustion of her vitality.

The four original members of the herd remain in perfect health, but the other female has not yet bred. They continue to be shy of the human hand, and although they will approach almost within reach, they will not permit anyone to handle them, not even their keeper.

The illustration above shows one of the males with his long, shaggy winter coat not yet fully developed.



A BIT OF LAKE AGASSIZ FROM THE JUNGLE WALK.



GREVY ZEBRA FROM SOUTHERN ABYSSINIA.

TWO RARE ZEBRAS.

Of all living Zebras, the rarest and the most sought are Grevy's Zebra, from northern Somaliland and Abyssinia, and the Mountain Zebra, from the mountains of Cape Colony. The former is comparatively new to the zoological world, having been discovered and described as late as 1882, when it was named in honor of the president of the French Republic, to whom the type specimen was sent by King Menelik. Of that rare species, Menelik maintains what is well-nigh a close monopoly, and few specimens ever reach the outside world that have not first passed through his hands.

The Grevy Zebra is distinguished by its large size, very narrow stripes that extend quite down to the hoofs, and its large ears.

The Mountain Zebra is a smaller species, marked by very wide stripes on the hindquarters only, and narrow stripes elsewhere. It is found only in the mountains of Cape Colony, and by the game protectors of that colony, its total number is estimated at only 400 individuals.

We are fortunate in possessing fine examples of both the species noticed above.

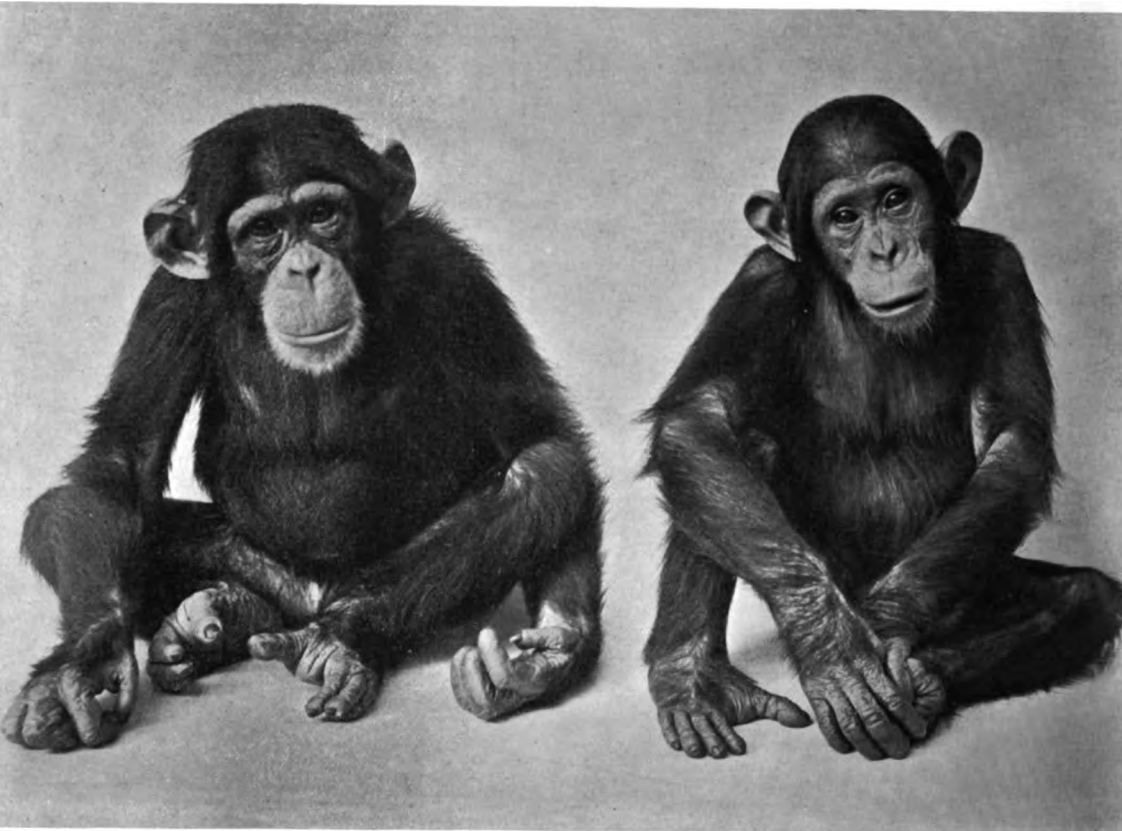
ZOOLOGICAL PARK VISITORS.

In determining the popularity of any public institution, it is the inexorable recording turnstile that tells the story. Being somewhat removed from New York City's center of population every visitor to the Zoological Park represents a special effort, and something expended for car fare. In view of all this, these figures of our monthly attendance for 1908 are of interest:

	1908	Increase
January	42,356	2,88
February	37,804	10,22
March	77,841	10,58
April	118,384	27,83
May	182,192	20,70
June	187,656	19,62
July	159,797
August	190,813	16
September	153,007	26,48
October	120,952	30,23
November	91,642	26,46
December	51,299

Total for the year.....1,413,743

175,20



LONG-HAIRED CHIMPANZEE "AUGUST" AND BALD-HEADED CHIMPANZEE "BALDY."
Pan satyrus schweinfurthi (Giglioli) *Pan pygmaeus* (Schreiber)
 Sudan and Uganda. Equatorial West Africa.

HOW TO REACH THE ZOOLOGICAL PARK.

For ten years, many of the newspapers of New York have constantly endeavored to inform their readers that the Zoological Park is *in the Bronx!* The energy and persistence with which we are Bronxed, year in and year out, is worthy of a real public necessity. If there were in New York City an assortment of zoological parks, then would we cheerfully accept "Bronx" as a part of our name; but there is only one Zoological Park hereabouts, and Jonas Bronck never dreamed of founding it.

The Zoological Park ("*in the Bronx*") is most easily reached by the eastern branch of the Subway. To-day the trains are marked "Bronx Park" and "West Farms;" but we are informed that in a short time our trains will be marked "Zoological Park." To reach the center of the Zoological Park from Wall Street requires about 55 minutes, and from the Grand Central Station about 40 minutes. The Subway terminus is at 180th Street, only two short blocks from our Boston Road Entrance, and the Boat House.

Visitors coming up on the Third Avenue Elevated should alight at Fordham Station, and either walk or take a surface car eastward on Pelham Avenue for nearly half a mile. The Interborough cross-town lines on 180th Street, and also on 189th Street, land visitors near our two western entrances.

CARRIAGES AND AUTOMOBILES.—The route from lower New York for carriages and automobiles is through Central Park, Lenox Avenue, Macomb's Dam Bridge, and Jerome or Washington Avenues to Pelham Avenue, thence eastward to our new Concourse Entrance, at the Bronx River bridge. Vehicles with visitors may enter the Park at that point, and land them at the steps leading up to Baird Court.

PAY DAYS AND FREE DAYS.—The Park is free on all days of the week save *Monday* and *Thursday*. On those two pay-days an admission of 25c. for adults is charged to all persons who are not members of the Society.

The Official Guide to the Zoological Park, fully illustrated, can be obtained at all entrances, for 25 cents.



PENINSULA BEAR CAPTURED AT MOELLER BAY, ALASKA PENINSULA.

A GREAT COLLECTION OF BEARS.

If properly established, no captive wild animals more fully repay their cost and keep than a collection of bears that has been judiciously formed. It is true that they are very troublesome comforts, and that every big bear is a storm-center; but we like them, for all that. When comfortably installed in large, clean yards, with plenty of sunlight, fresh water, rocks to climb upon and a good variety of food, they are full of action, and constitute a great attraction to visitors.

From the beginning, we have striven to bring together as many as possible of the species of bears with which the public is but little acquainted. First we devoted special attention to the Alaskan Brown Bears,—the giants of the genus *Ursus*,—and to-day we have four good species, with the prospect of a fifth one when a certain young animal matures. One of these has come to us from north of the Arctic Circle, only 300 miles south of Point Barrow (the most northerly point of Alaska), which is the most northerly habitat for a bear of this group.

We have also recently secured,—after ten years of constant effort,—a black bear from South America, which represents the form described by Oldfield Thomas as *Ursus ornatus majori*. Of our old friend, the Rocky Mountain Grizzly, we have specimens from several different localities.

The following is a list of our specimens and species, as the collection stands to-day:

2 Polar Bears.....	<i>Ursus maritimus</i> .
2 Kadiak Bears.....	" <i>middendorffi</i> .
2 Yakutat Bears.....	" <i>dalli</i> .
1 Admiralty Bear.....	" <i>oulophus</i> .
1 Peninsula Bear.....	" <i>merriami</i> .
1 Arctic Brown Bear.....	" undetermined.
3 Grizzly Bears.....	" <i>horribilis</i> .
9 Black Bears.....	" <i>americanus</i> .
1 Syrian Bear.....	" <i>syriacus</i> .
2 Brown Bears.....	" <i>arctos</i> .
2 Hairy-Eared Bears.....	" <i>piscator</i> .
1 Himalayan Black Bear.....	" <i>torquatus</i> .
1 Japanese Bear.....	" <i>japonicus</i> .
2 Yezo Bears.....	" <i>ferox</i> .
1 Sloth Bear.....	" <i>labialis</i> .
2 Sun Bears.....	" <i>malayanus</i> .
1 Andes Black Bear.....	" <i>ornatus majori</i> .
3 Hybrids, born here.	
37 specimens, representing 17 species.	



NORTH FACADE AND DOME OF THE ELEPHANT HOUSE.
Heins & La Farge, Architects.

THE ELEPHANT HOUSE.

OF the building operations in the Zoological Park, the most important single feature is the Elephant House. Of ten years construction work, it is the climax; and it is fittingly crowned with a dome. It is situated on the site prepared for it by Nature, and chosen twelve years ago, on the axis of Baird Court, and in the open space midway between the Court and the Wolf Dens. In effect, it connects the two great groups of installations of the northern and southern regions of the Park which until now have been slightly separated.

We believe that this effort represents high-water mark in zoological building construction. It is spacious, well lighted, beautiful in its lines, both externally and internally, beautifully ornamented without being overdone, and also wholly free from useless extravagance. The interior lighting and cage "effects" are highly satisfactory, the light upon the animals being quite sufficient, without being too strong and glaring. It is clearly evident that the animals *enjoy* their cages; for were it otherwise, the African rhinoceros would not, almost daily, gallop round and round, and with ponderous agility often leap into the air.

In several important particulars the Elephant House is unlike all other buildings in the Park. It is high; it is entered at the center of each side, instead of at each end; it is built entirely of stone; it has a main roof of green tiles, and has a lofty dome covered with glazed tiles laid in an elaborate color pattern of browns and greens. The dome is finally surmounted by a "lantern" of elaborate tile work, also in colors. Excepting the dome, the whole exterior structure is of smoothly dressed Indiana limestone. Each entrance consists of a lofty and dignified archway, in which the doors are deeply recessed; and each of these arches is grandly ornamented by animal heads, sculptured in stone.

The color effects of the interior are particularly pleasing. The large, flat bricks of the Gustavino arch system are in their natural colors, and form a blending of soft brown and buff shades that not only avoids monotony, but is pleasing and restful to the eye. Combined with the vaulted ceilings of the main halls and the cages there are a few strong arches of mottled buff brick which harmonize perfectly with the ceiling tiles of the main dome. This scheme of vaulted ceilings is so new that few persons ever have seen a finished example. Both the main dome, and the arched ceiling below it, have been

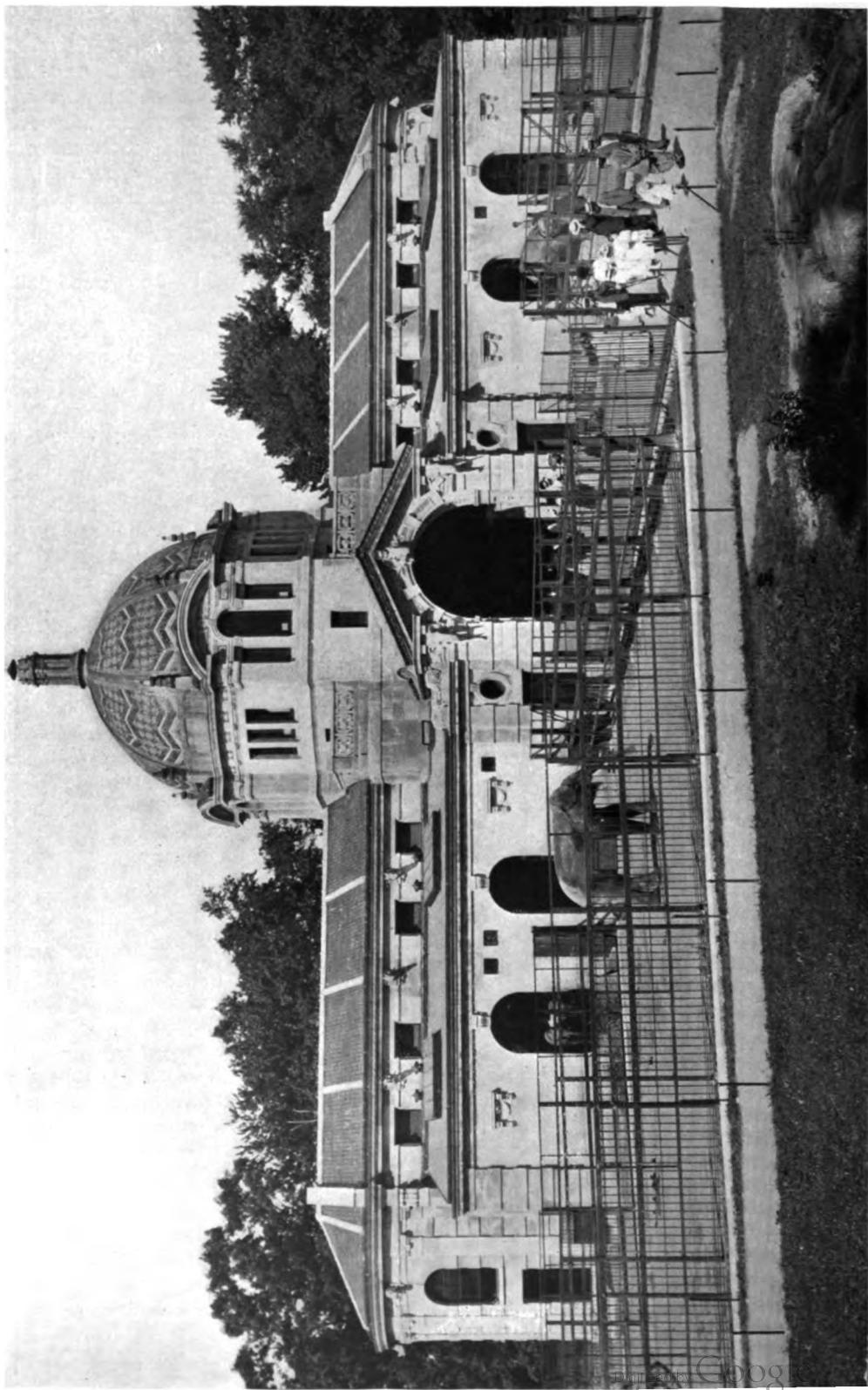
constructed by Gustavino without the employment of either the steel rafters or ribs which one naturally expects to see in such structures.

Each of the eight immense cages, that to-day contain elephants and rhinoceroses, has been designed to frame and display its living occupant as perfectly as a frame fits a picture. The vaulted ceilings and large central skylights are particularly well adapted to cages for extremely large animals, and the lighting is quite perfect. The front of each cage—24 feet—is spanned aloft by a single Gustavino arch, and is unsupported by intermediate columns. Each cage is 24 x 24 feet, which is ample for elephants and rhinoceroses of the largest size. To a height of 6 feet the walls are lined with plates of quarter-inch steel; and nothing less powerful than a locomotive could break through or break down the front bars and beams. The outside doors are marvels of strength and smoothness in action. They are of four-inch oak, reinforced with quarter-inch steel plates, and on the inside they are strengthened against attack by three heavy movable beams of steel.

The ground plan, and all cage and yard arrangements of the Elephant House, were designed by the Director of the Zoological Park. The architects were Messrs. Heins & La Farge. The animal sculptures on the southern half of the building were executed by A. Phimister Proctor, and those on the north half are by Charles R. Knight. The building was erected by the F. T. Nesbit Company, with John C. Coffey as Superintendent of Construction. The steel fences enclosing the yards were designed by George M. Beerbower, Civil Engineer of the Zoological Park staff, and the macadam and masonry construction work in the yards and surrounding walks was performed by our own force, under the direction of Hermann W. Merkel, Chief Constructor.

The total cost of the building was \$157,473, and of the surrounding yards, fences and walks \$27,159, making for the entire installation a total of \$184,632. This is \$16,000 less than the original estimate.

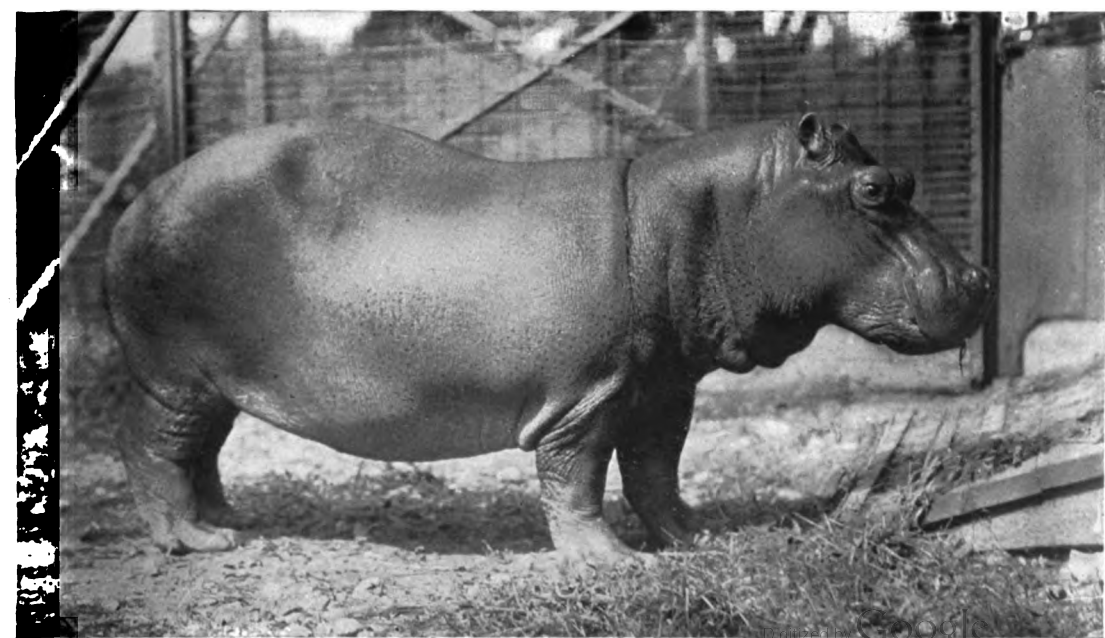
The Elephant House contains a surpassingly fine and valuable collection, consisting of 2 Indian Elephants, 2 Sudan African Elephants, 1 Congo African Elephant, 1 Great Indian Rhinoceros, 2 African Black Rhinoceroses, 1 Hippopotamus, 2 American Tapirs and 1 Indian Tapir.



THE ELEPHANT HOUSE AND ITS YARDS.



INDIAN ELEPHANT "GUNDA" IN HIS NEW QUARTERS AT THE ELEPHANT HOUSE.





JAPANESE RED-FACED MONKEY AND YOUNG.



YOUNG MEXICAN PUMA.

IMPORTANT ACCESSIONS FROM AFRICA IN 1909.

1 SABLE ANTELOPE.	1 WART-HOG.	2 BLACK-FOOTED PENGUINS.
1 GREATER KUDU.	1 HYAENA DOG.	4 EGYPTIAN GEESE.
1 MOUNTAIN ZEBRA.	2 BLACK-BACKED JACKALS.	2 BATELEUR EAGLES.
2 GRANT ZEBRAS.	1 CARACAL.	2 VULTURINE SEA EAGLES.
1 CONGAN SITATUNGA.	1 CHEETAH.	2 TOURACOUS.
2 SPEKE SITATUNGAS.	1 HYRAX.	1 GOLDEN ORIOLE.
1 DUKER ANTELOPE.	1 BROAD-NOSED CROCODILE.	1 ROCK THRUSH.



TAMANDUA: PREHENSILE-TAILED ANTEATER.



TREE PORCUPINE.

LIST OF INSTITUTIONS HOLDING EXHIBITIONS

UNDER THE AUSPICES OF OR IN COÖPERATION WITH SCIENTIFIC, HISTORICAL AND
ART COMMITTEES OF THE HUDSON-FULTON CELEBRATION COMMISSION

AMERICAN SOCIETY OF MECHANICAL ENGINEERS, Engineering Building, 29 West Thirty-ninth Street. **Robert Fulton Exhibition.** Consists of paintings, drawings, books, decorations and furniture, and working models of John Fitch's steamboat, the first boat operated and propelled by steam; Robert Fulton's "Clermont," the first successful application of steam to navigation, and John Stevens' "Phœnix," the first steamboat to sail on the ocean.

The exhibition will be shown in the Council Room of the Society, on the eleventh floor, and will be open from 9.00 a. m. until 5.30 p. m. during the entire period of the Hudson-Fulton Celebration, and from 9.00 a. m. until 5.00 p. m. daily until December 6th.

CITY HISTORY CLUB OF NEW YORK, 21 West Forty-fourth Street. **Special Exhibition of Illustrations, Photographs, Maps and Plans**, relating to the history of the City of New York, and all of the originals used in the City History Club Historical Guide Book of the City of New York.

COLLEGE OF THE CITY OF NEW YORK, St. Nicholas Avenue and 139th Street. **Hudson-Fulton Exhibit.** During the Hudson-Fulton Celebration and for some weeks thereafter, the College of the City of New York will have on exhibition in its historical museum a collection of charts, views, manuscripts and relics representing old New York. Among the charts will be original prints of New Netherlands and New Amsterdam by Nicholas J. Vischer, about 1650; N. Visscher, 1690; Lotter's "New Jorck," 1720; contemporary plans and views of the Revolutionary period showing the movements of Washington and Howe in this vicinity during the Campaign of 1776; Revolutionary battle relics; portraits, residences and letters of old New Yorkers; bronze busts of Washington, Lincoln and Fulton by Houdon and Volk; and other material suggested by the celebration.

Take Sixth Avenue Elevated Railway to 140th Street, or Broadway Subway to One Hundred and Thirty-seventh Street; also Amsterdam Avenue surface cars to college entrance.

DEPARTMENT OF PARKS, BOROUGH OF BROOKLYN. Through the courtesy of Commissioner Michael J. Kennedy and his assistant arboriculturist, J. J. Levison, the different species of trees have been labeled in Prospect Park, from the Plaza to the Willink Entrance; in Bedford Park; in Highland Park, and in Tompkins Park. An additional small enameled sign has been hung on those labeled trees that were indigenous to the Hudson River Valley in 1609. The special label reads: "This species is a native of the Hudson River Valley."

FRAUNCES TAVERN, 54 Pearl Street, near Broad Street. Historic Revolutionary Building. Built in 1719. Scene of Washington's farewell to his officers on December 4th, 1783. Restored December 4th, 1907, by the New York Society of the Sons of the Revolution. Open daily, except Sundays, from 9 a. m. to 6 p. m. Special Exhibition of Revolutionary Relics by the New York State Society of the Sons of the Revolution, who are the owners of that historical building, September 15th to November 1st.

Take Subway to Bowling Green Station, or Third Avenue Elevated Railway to Hanover Square Station, or Broadway surface cars.

LONG ISLAND HISTORICAL SOCIETY, corner of Pierrepont and Clinton Streets, Brooklyn, between Brooklyn Bridge and Borough Hall. Open daily, except Sundays, from 8.30 a. m. to 6 p. m. Reference library of 70,000 volumes; manuscripts, relics, etc. Autograph receipt of Robert Fulton and original manuscript volume of Danker's and Sluyter's "Journal of a Voyage to New York in 1679-80."

Take Subway to Borough Hall, Brooklyn; Third Avenue Elevated Railway to Brooklyn Bridge, connecting with Bridge cars; or surface cars to Bridge.

METROPOLITAN MUSEUM OF ART, Central Park East. Main entrance on Fifth Avenue at Eighty-second Street. Open daily, except Sundays, from 10.00 a. m. to 6.00 p. m.; in winter to 5.00 p. m.; Saturdays to 10.00 p. m.; Sundays from 1.00 to 6.00 p. m. On Mondays and Fridays an admission fee of 25 cents is charged, except to members and copyists. Collections illustrating all departments of Art and Archæology. Special Exhibition of a magnificent Collection of over 130 of the works of Old Dutch Masters, constituting the finest Exhibition of this kind ever made. Products of Colonial Art: Industrial Art, Furniture, Pewter of the 17th and 18th centuries, etc. (Two illustrated catalogues for sale, one of Dutch Exhibit and one of Colonial Arts; price 10 cents each. Also finely illustrated edition de luxe.)

Take Fifth Avenue stages or Madison Avenue surface cars to Eighty-second Street, one block east of Museum; connection with Subway at Forty-second Street, and with Elevated Railway and West Side surface cars at Fifty-ninth Street.

NATIONAL ARTS CLUB, Twentieth Street near Irving Place (Gramercy Park). This house was formerly the residence of Samuel J. Tilden, and is situated one block east of the birth-place of Ex-President Roosevelt. Open daily from September 20th to about October 18th, 1909, from 9 a. m. to 10 p. m. Special Loan Exhibition by the National Arts Club, in cooperation with the American Scenic and Historic Preservation Society.

Three centuries of New York City: Special Exhibition of Paintings, Photographs, Drawings and other interesting materials, illustrating the growth and progress of New York from the time of Henry Hudson to the present day. (Catalogue for sale.)

Take Fourth or Madison Avenue surface cars to corner of Fourth Avenue and Twentieth Street, one block west of Club-house. Subway Station at Eighteenth Street and Fourth Avenue, three blocks away.

NEW YORK BOTANICAL GARDEN, Bronx Park. Museums open daily including Sundays from 10 a. m. to 5 p. m.; Conservatories from 10 a. m. to 4 p. m. Grounds always open. In the Grounds and Conservatories exhibits of Plants, Shrubs, Trees, and Natural Woodland; in the Museums, Plant Products utilized in the Arts, Sciences and Industries. All plants growing on Manhattan Island and Hudson River Valley at the time of Hudson's arrival are marked with the letter "H." (Special illustrated catalogue for sale.)

Take Third Avenue Elevated Railway to Bronx Park (Botanical Garden). Subway passengers change at 149th Street; also reached by Harlem Division of the New York Central Railroad from Grand Central Station, Fourth Avenue and Forty-second Street.

NEW YORK GENEALOGICAL AND BIOGRAPHICAL SOCIETY, 226 West Fifty-eighth Street, between Broadway and Seventh Avenue. Open daily, except Sundays, from 10.00 a. m. to 5.00 p. m., until November 1st. Special Exhibition of old Deeds, Manuscripts, Books, Portraits, etc., relating to the history of the United States up to and including the War of 1812. (Catalogue for sale.)

Take Broadway surface cars to corner of Fifty-eighth Street. Subway station at Columbus Circle (Fifty-ninth Street), two blocks distant; Sixth Avenue Elevated station at Ninth Avenue and Fifty-ninth Street, three blocks away.

NEW YORK HISTORICAL SOCIETY, corner of Seventy-seventh Street and Central Park West. September 25th to October 30th, open daily from 9 a. m. to 5 p. m. Robert Fulton Exhibition, of the New York Historical Society, in cooperation with the Colonial Dames of America. (Catalogue for sale.)

Take Sixth Avenue Elevated Railway to Eighty-first Street and Columbus Avenue, or surface cars traversing Central Park West; also reached by any Columbus Avenue surface car to Seventy-seventh Street.

NEW YORK PUBLIC LIBRARY, Lenox Branch, Fifth Avenue and Seventy-second Street. Open daily, except Sundays, from 9 a. m. to 6 p. m. Special Exhibition of Prints, Books, Manuscripts, etc., relating to Henry Hudson, the Hudson River, Robert Fulton, and Steam Navigation. (Special illustrated catalogue for sale; price 10 cents.)

Take Fifth Avenue Stages, or Madison Avenue surface cars to Seventy-second Street, one block east of Library; connection with Subway at Grand Central Station and with Elevated Railway and West Side surface cars at Fifty-ninth Street.

REFORMED DUTCH CHURCH. The Reformed Protestant Dutch Church of the City of New York will make an exhibit in the chapel of the Church of St. Nicholas, Fifth Avenue and 48th Street, during the week of the celebration, 9 to 5 daily.

This church was organized A. D. 1628, and the exhibit will comprise articles connected with its long history.

VAN CORTLANDT HOUSE MUSEUM, in Van Cortlandt Park. This fine colonial mansion, built in 1748, with furniture of period, is one of the oldest houses within the area of Greater New York; it is in the custody of the Colonial Dames of the State of New York. Open daily, 9.00 a. m. to 5.00 p. m. Special Exhibition of Mezzotint Portraits of men prominent in political life prior to the Revolution; Wedgwood's Medallion Portraits of Illustrious Personages; Cartoons and Caricatures of political events, etc. (Special illustrated catalogue on sale.)

Take New York Central Railroad from Grand Central Station; Sixth Avenue Elevated Railway, connecting at 155th Street with the Putnam Division of the New York Central Railroad; or Subway trains marked Van Cortlandt Park.

WASHINGTON'S HEADQUARTERS (The Jumel Mansion), Roger Morris Park, Edgecombe Avenue and One Hundred and Sixty-second Street. Built about 1760. Under the Department of Parks. Exhibition by the ladies of the Washington Headquarters Association, Daughters of the American Revolution. Open free daily, including Sundays, from 9 a. m. to 5 p. m. Special features: Collection of Colonial furnishings, objects and pictures; also the Bolton Collection of War Relics of the Revolution.

Take Amsterdam Avenue surface cars; Sixth Avenue Elevated Railway to One Hundred and Fifty-fifth Street, or Broadway Subway to One Hundred and Fifty-seventh Street.

AMERICAN MUSEUM OF NATURAL HISTORY, Seventy-seventh Street, from Columbus Avenue to Central Park West. Open daily, except Sundays, from 9 a. m. to 5 p. m. Sundays from 1 to 5 p. m. Always free. Special Exhibition during the Hudson-Fulton Celebration, from September 1st to December 1st. Original objects showing the life and habits of the Indians of Manhattan Island and the Hudson River Valley. (Special illustrated catalogue for sale, price 10 cents.)

Take Sixth or Ninth Avenue Elevated Railway to Eighty-first Street, or Subway to Seventh-ninth Street; also reached by all surface cars running through Columbus Avenue or Central Park West.

BROOKLYN INSTITUTE, Eastern Parkway. Open daily, except Sundays, from 9 a. m. to 6 p. m.; Sundays from 2 to 6 p. m. Thursday evenings from 7.30 to 9.30 p. m. Free except on Mondays and Tuesdays when admission fee is charged of 25 cents for adults and 10 cents for children under six years of age. Collection illustrating various departments of Archaeology, Mineralogy and Ethnography. Special Exhibition relating to past and present life of Indians on Long Island. Portrait of Robert Fulton painted by himself, the property of Col. Henry T. Chapman and loaned by him to the Museum. Open September 1st to December 31st. (Illustrated catalogue for sale.)

Take Subway Express to Atlantic Avenue, or Flatbush Avenue Trolley from Brooklyn Bridge. St. John's Place surface car from Atlantic Avenue or Borough Hall.

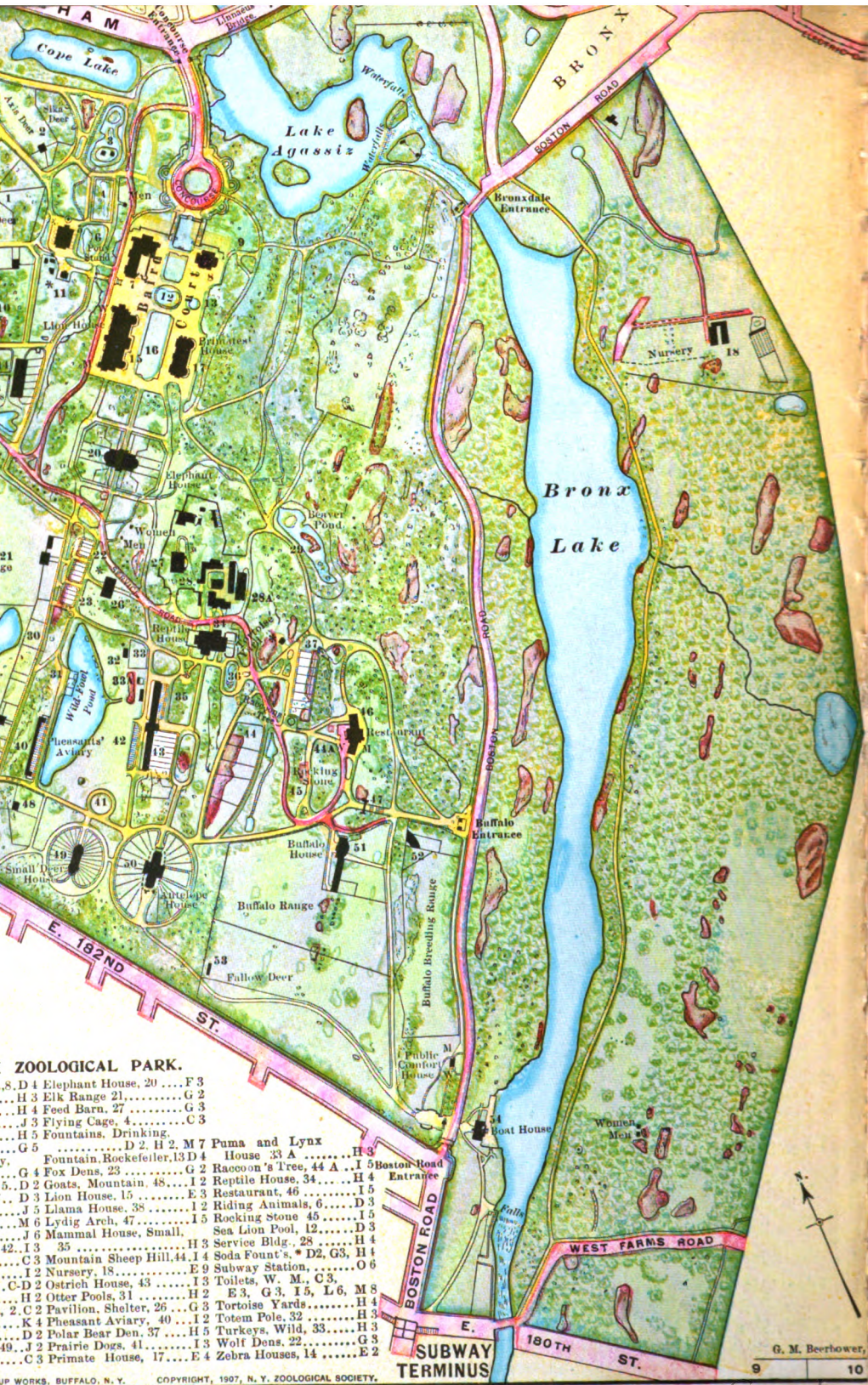
CHILDREN'S MUSEUM (Brooklyn Institute), Bedford Park, Brooklyn Avenue. Collection illustrative of the fauna of Long Island. Open free to the public from Monday to Saturday (inclusive) from 9 a. m. to 5.30 p. m., and on Sunday from 2 until 5.30 p. m.

NEW YORK AQUARIUM, in Battery Park, under the management of the New York Zoological Society. Open daily, including Sundays, from 9 a. m. to 5 p. m. until October 15th. (October 16th to April 14th, from 10 a. m. to 4 p. m.) This building was erected in 1807 by the United States Government as a fort and after the War of 1812 was called Castle Clinton; later, as Castle Garden, it was the scene of Jenny Lind's triumphs, and from 1855 to 1890 it was the portal of the New World for 7,690,606 immigrants. This is the largest aquarium in the world and contains a greater number of specimens and species than any other. All tanks containing fish indigenous to the Hudson River will be so marked.

Take Elevated Railway to Battery Place Station, or Subway to Bowling Green Station; also reached by all surface cars which go to South Ferry.

NEW YORK ZOOLOGICAL PARK, under the management of the New York Zoological Society, in Bronx Park. Open daily, including Sundays, from 9 a. m. until an hour before sunset (November 1 to May 1 from 10 a. m.). Free, except on Mondays and Thursdays, when an admission fee of 25 cents is charged. Exhibition of a splendid collection of Animals, Birds and Reptiles. The fauna of Henry Hudson's time on Manhattan Island and in the Hudson River Valley will be indicated by the flag of the Hudson-Fulton Celebration. (Special illustrated catalogue describing same for sale.)

Take Subway trains marked "Bronx Park Express" to terminus at 180th Street, or Third Avenue Elevated to Fordham Station. The entrances are reached by numerous surface cars.



THE NEW YORK ZOOLOGICAL PARK IN 1909

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